Biological and Oceanographic Data from the Harmful Algae Monitoring Program Associated with Salmon Farm Sites on the West Coast of Canada in 2003

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BIOLOGICAL AND OCEANOGRAPHIC DATA FROM THE HARMFUL ALGAE MONITORING PROGRAM ASSOCIATED WITH SALMON FARM SITES ON THE WEST COAST OF CANADA IN 2003

by

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ABSTRACT

Haigh, N., Whyte, J.N.C., and Sherry, K.L. 2004. Biological and oceanographic data from the harmful algae monitoring program associated with salmon farm sites on the west coast of Canada in 2003. Can. Data Rep. Fish. Aquat. Sci. 1158: 107 p.

This report presents the results of the fifth year of the Harmful Algae Monitoring Program, which was initiated in 1999 by Fisheries and Oceans Canada in collaboration with the salmon aquaculture industry in British Columbia. Sampling done weekly at farm sites provided data on: phytoplankton species, including those harmful or potentially harmful to finfish; phytoplankton biomass and dominant groups; nutrient (nitrate, phosphate, silicate, and ammonium) levels; and environmental parameters such as temperature, salinity, and dissolved oxygen. In 2003 the sampling period was from May to the end of October, and 11 sites around Vancouver Island were monitored.

RÉSUMÉ

Haigh, N., Whyte, J.N.C., and Sherry, K.L. 2004. Biological and oceanographic data from the harmful algae monitoring program associated with salmon farm sites on the west coast of Canada in 2003. Can. Data Rep. Fish. Aquat. Sci. 1158: 107 p.

Ce rapport présente les résultats de la cinquième année du programme de surveillance des algues toxiques, lequel a été initié en 1999 par Pêches et Océans Canada en collaboration avec l'industrie aquicole de la Colombie Britannique. Un échantillonnage hebdomadaire aux sites de mariculture a fourni des données sur la composition des espèces phytoplanctoniques, incluant les algues toxiques ou potentiellement nocives aux poissons, ainsi que sur la biomasse phytoplanctonique et les groupes dominants, les niveaux des sels nutritifs (nitrate, phosphate, silicate, ammonium), et les paramètres environnementaux tels la température, salinité, et l'oxygène dissous. En 2003, la période d'échantillonnage était de mai à octobre, et 11 sites autour de l'île de Vancouver ont été échantillonnés.

ACKNOWLEDGEMENTS

The Harmful Algae Monitoring Program was funded by the salmon aquaculture industry in British Columbia. In 2002 companies contributing to the program were Stolt Sea Farm, Pacific National Aquaculture, Marine Harvest Canada, Heritage Aquaculture, Creative Salmon, Target Marine Products, and Grieg Seafood BC Ltd. We would like to acknowledge this support, and the efforts of company personnel who helped to keep the program running. We would also like to thank the farm personnel who carried out the sampling at the monitoring sites and who communicated with us in the instances of harmful algal blooms at salmon aquaculture operations around the coast of British Columbia.

INTRODUCTION

The Harmful Algae Monitoring Program (HAMP) was started in the summer of 1999 with the motivation of Terry Nielsen and Darrell Volker of Pacific Aqua Salmon Farmers (PASF), in co-operation with Dr J. N. C. (Ian) Whyte of Fisheries and Oceans Canada and Nicky Haigh. In the fifth year of the program, 2003, seven farm companies took part in the program, with 11 sites around Vancouver Island sampled weekly from mid-May to the end of October. Figure 1 shows the HAMP sampling sites for 2003.

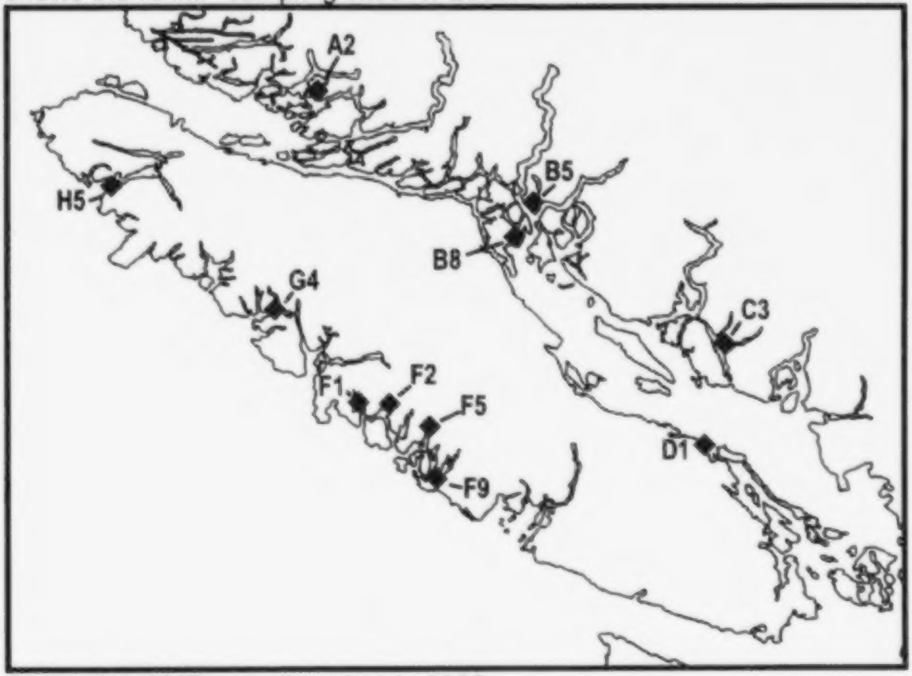

Figure 1: HAMP sampling sites in 2003.

A2	Simoom Sound	D1	Departure Bay	F9	Indian Bay
B5	Raza Island	F1	Pretty Girl Cove	G4	Steamer Point
B8	Conville Bay	F2	Bacchante Bay	H5	Koskimo Bay
C3	Kunechin Point	F5	Bedwell Sound		

This report summarises in tables, figures and graphs the data for the HAMP samples collected in 2003. Tables present the results of sample analyses for phytoplankton species, dominant species name and counts, estimated total phytoplankton biomass, and percentage of sample biomass in five constituent groups: diatoms, dinoflagellates, raphidophytes, other flagellates, and microzooplankton. The presence of algal species that are harmful or potentially harmful to fish are illustrated in figures for each site monitored. For sites where environmental data has been provided by the farm companies, graphs of water temperature, salinity, dissolved oxygen (DO), and sigma-T are presented collectively as figures for each site. Similarly, water nutrient parameters as concentrations of silicate, phosphate, ammonium, and nitrate are graphically illustrated for sites where samples were collected in 2003 (Simoom Sound, Kunechin Point, and Pretty Girl Cove).

MATERIALS AND METHODS

PLANKTON SAMPLE COLLECTION

Samples for analyses were collected weekly by farm site personnel. Discrete 100 mL water samples were collected, usually using home-made sampling bottles, from 1m, 5m, and 10 metre depths, and were preserved with Lugol's iodine solution. Samples were then forwarded by courier to the Pacific Biological Station (PBS) in Nanaimo.

PLANKTON SAMPLE ANALYSIS

Plankton samples were analysed usually on the day water samples were received. Samples were resuspended by mixing gently, and a 1 mL aliquot was pipetted into a plastic Sedgewick Rafter cell and allowed to settle for at least five minutes. The whole rafter slide was scanned using a Leitz Wetzlas Dialux microscope: the first 20% of the slide was examined at 100X magnification, and the remainder at 40X, shifting up to 100X when necessary to aid identification of species. All species were identified to highest practicable level, and registered on data sheets. Non-harmful or difficult to differentiate species were sometimes grouped into genus or type (e.g. *Thalassiosira* species as diatoms were grouped together, and gymnodinioid type dinoflagellates were grouped together). In the data sheets each species in the genus or group were given a mark in the corresponding box. If harmful species were present in the sample a count was made of those species (see "Counting Technique"). The dominant species or group in each sample was identified and counted. Total biomass in the sample was estimated on a scale of 1(very low) to 5 (very high). Proportion of total biomass in each of five groups (diatoms, dinoflagellates, raphidophytes, other flagellates, and microzooplankton) was approximated. Analysis of each sample usually took 20-40 minutes.

COUNTING TECHNIQUE

Counts of algae were either "approximate counts" (indicated by a tilde before the number, e.g. ~20) or "more accurate counts". For more accurate counts at least 100 cells of the species or group in question were counted. Plankton tends to settle non-randomly in Sedgewick Rafter cells, with greater accumulations around the edges than in the middle of the slide, so more accurate counts were usually done across the middle section of the slide, including a balance of edge and middle squares. Enumeration of harmful algal species often produced approximate counts, as levels were generally less than 100 cells/mL except during blooms, and analysis time constraints usually made it impracticable to count the alga in more than a few rows of the slides.

ENVIRONMENTAL MONITORING

Data sheets for environmental monitoring were provided to the HAMP participant companies. These sheets were to be completed with water temperature, salinity, dissolved oxygen, and other environmental data for the sampling depths at the time and place HAMP samples were taken. This data was then to be sent to PBS for compilation and archiving. This data collection was done to varying degrees by different farm companies and at different sampling sites.

NUTRIENT SAMPLE COLLECTION AND ANALYSIS

Certain HAMP sites were selected for nutrient sampling based on siting and company participation; this sampling was done concurrent with that for phytoplankton analysis. Particulate matter was filtered out using Fisherbrand G4 microfibre filters (1.2 µm particle retention size) in Swinnex holders attached to 60 mL plastic syringes; filtrate was frozen in 30 mL acid-washed HDPE Nalgene bottles for later analysis. At the end of the sampling season, all collected and preserved samples were analysed for nitrate (including nitrite), ammonium, phosphate, and silicate concentrations using a Technicon AutoAnalyzer.

RESULTS FROM SAMPLES COLLECTED DURING 2003

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Table 1: Diatoms in Simoom Sound samples.

date	22-May			28-May			05-Jun			11-Jun			20-Jun			26-Jun			04-Jul			10-Jul			18-Jul			24-Jul		
depth	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m
Diatoms																														
Achnanthes sp.																														
Actinoptychus sp.																														
Amphiprora/ Tropidoneis																														
Asterionella japonica																														
Bacteriastrum sp.																												1		
Biddulphia sp.																														
Campylosira/Plagiogramma																														
Cerautalina sp.	1	1	1	1	1		1	1	1	1	1	1	1		1										1	1	1			1
Chaetoceros concavicorne																														
Chaetoceros convolutus				1																										
Chaetoceros sp.	3	7	3	3	6	4	4	2	4	6	4	1	7	3	5	5			5			2	1	1	10	9	10	3	2	4
Corethron hystrix																														
Coscinodiscus sp.				1																										
Cylindrotheca closterium					1				1	1						1			1	1		1	1	1	1	1	1	1	1	1
Dactylisolen sp.												1			1			1												
Detonula pumila		1	1		1								1																	
Ditylum brightwellii																														
Eucampia zoodiacus																														
Fragilaria sp.																														
Grammatophora sp.																														
Hemialus sp.																														
Lauderia annulata																														
Leptocylindrus danicus	1	1	1		1	1	1	1	1	1	1	1	1		1											1				
Leptocylindrus minimus																														
Licmophora sp.													1																	
Melosira sp.																														
Navicula sp.								1					1						1			1			1	1	1			
Nitzschioid *sp.*	1	1	1	1	2	1	1	1	1			1	2				1		1	1						1	2	1		
Pleurosigma/ Gyrosigma sp.																										1				
Pseudonitzschia sp.																														
Rhizosolenia setigera													1																	
Rhizosolenia sp. (pointy)																														
Rhizosolenia sp. (blunt)		1	1			1		1	1																					
Rhizosolenia stolterfothii																														
Skeletonema costatum	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		1	1	1					1	1	1	1		1
Stephanopyxis sp.																														
Thalassionema sp.				1	1	1		1	1	1		1													1	1	1			1
Thalassiosira sp.	1	2	2	1	2	3	2	2	2	1	1	1	1	1						1					1	1	2	1		1
misc centric																														
misc pennate																														

Table 1 cont'd

date	07-Aug			14-Aug			21-Aug			29-Aug			03-Sep			30-Sep			16-Oct			29-Oct		
depth	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m
Diatoms																								
Achnanthes sp.																								
Actinoptychus sp.																								
Amphiprora/ Tropidoneis													1		1									
Asterionella japonica																								
Bacteriastrum sp.																								
Biddulphia sp.																								
Campylosira/Plagiogramma																								
Cerautalina sp.						1												1						
Chaetoceros concavicorne																								
Chaetoceros convolutus																					1			
Chaetoceros sp.	6	2	2	6	6	6	8	6	4		1	2	4	8	8	2	1	2	2		2			
Corethron hystrix																								
Coscinodiscus sp.						1																		
Cylindrotheca closterium				1	1	1	1	1	1		1	1	1	1	1								1	
Dactylisolen sp.																					1			
Detonula pumila																								
Ditylum brightwellii													1											
Eucampia zoodiacus				1	1			1	1					1	1						1			
Fragilaria sp.																								
Grammatophora sp.																								
Hemialus sp.																								
Lauderia annulata																								
Leptocylindrus danicus								1		1	1	1				1		1	1	1	1			
Leptocylindrus minimus																								
Licmophora sp.						1																		
Melosira sp.																								
Navicula sp.			1		1	1					1		1	1	1	1					1		1	
Nitzschioid sp.																								
Pleurosigma/ Gyrosigma sp.							1																	
Pseudonitzschia sp.	1		1	1	1	1	1	1	1		1	1	1	1			1		1			1		1
Rhizosolenia setigera				1		1								1										
Rhizosolenia sp. (pointy)																								
Rhizosolenia sp. (blunt)						1							2	2	1									
Rhizosolenia stolterfothii																								
Skeletonema costatum							1	1	1		1		1	1	1									
Stephanopyxis sp.																								
Thalassionema sp.					1	1								1		1	1	1			1			
Thalassiosira sp.	1	1		2	2	1	1	2	2		2	3	3	3	3	2	2	1	1	1	1		1	1
misc centric									1			1		1	1									
misc pennate															1									

Table 2: Dinoflagellates in Simoom Sound samples.

date	22-May			28-May			05-Jun			11-Jun			20-Jun			26-Jun			04-Jul			10-Jul			18-Jul			24-Jul		
depth	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m
Dinoflagellates																														
Alexandrium sp.								1				1	1	1	1		1	1		1		1		1		1				
Amphidinium sp.								1						1	1			1												
Ceratium divericatum																														
Ceratium furca																														
Ceratium fusus							1				1			1			1	1		1			1			1			1	1
Ceratium lineatum																														
Ceratium sp.								1																						
Cochlodinium polykrikoides																														
Cochlodinium sp.																														
Dinophysioid sp.			1		2			1	1								1	2				1	1			2	1	1		
Diplopsalis sp.																														
Gonyaulacoid sp.																1														
Gymnodinioid sp.		7	4	2	8	5	5	6	6	4	6	2	5	2		8	5	3	4	6		6	2	2	6	6	3	5	4	5
Gymnodinium galatheanum																														
Gyrodinium spirale-type		2	1		2	2	2	2	2	1		1	1	1				1		1				1	1	1	1	1	1	1
Heterocapsa triquetra									1																					
Noctiluca scintillans						1		1	1	1			1	1	1	1	1	1	1	1		1			1	1	1	1	1	1
Noctilucoid sp.																														
Oxyrrhis marina																			1	1										
Oxyphysis oxytoxoides																									1					
Polykrikos sp.																				1										
Prorocentrum gracile																			1			1			1	1	1	1	1	
Prorocentrum micans																														
Prorocentrum sp.																														
Protoperidinioid sp.	2	3		4	6	5	7	5	5	5	6	4	3	6		3	5	3	3	5			2	1	1	5	1	3	3	2
Pyrocystis lunula																														
Raphidophytes																														
Heterosigma akashiwo																														
unid raphidophyte																														

Table 2 cont'd

date	07-Aug			14-Aug			21-Aug			29-Aug			03-Sep			30-Sep			16-Oct			29-Oct		
depth	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m
Dinoflagellates																								
Alexandrium sp.							1						1	1			1		1	1				
Amphidinium sp.																								
Ceratium divericatum																								
Ceratium furca																								
Ceratium fusus		1		1	1	1		1		1	1	1			1									
Ceratium lineatum																								
Ceratium sp.																								
Cochlodinium polykrikoides																								
Cochlodinium sp.																								
Dinophysioid sp.		1		1	1			1		1	1			1	1					1		1		
Diplopsalis sp.																								
Gonyaulacoid sp.																								
Gymnodinioid sp.	7	3	2	5	9	3	5	6	4	5	5	4	4	4	2	3	3	2	8	6	5	2	3	2
Gymnodinium galatheanum																								
Gyrodinium spirale-type	1		1	1	3						1			1								1		
Heterocapsa triquetra																								
Noctiluca scintillans	1			1	1	1		1		1				1										
Noctilucoid sp.																								
Oxyrrhis marina																								
Oxyphysis oxytoxoides																								
Polykrikos sp.																								
Prorocentrum gracile		1																						
Prorocentrum micans																								
Prorocentrum sp.	1												1										1	
Protoperidinioid sp.		3	1	4	4	4	1	3	2		1	3	1	2			2	2	4	2			1	
Pyrocystis lunula																								
Raphidophytes																								
Heterosigma akashiwo																1	1	1	1	1	1		1	
unid raphidophyte																			1	1	1			

Table 3 : Other flagellates, microzooplankton, dominant species, percent constituent, and total biomass in Simoom Sound samples.

date	22-May			28-May			05-Jun			11-Jun			20-Jun			26-Jun			04-Jul			10-Jul			18-Jul			24-Jul		
depth	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m
Other Flagellates																														
Cryptomonads																														
Dictyocha fibula / naked																														
Dictyocha speculum									1																					
Dinobryon balticum																														
Ebria tripartita																														
Euglenoid				1		1	1	1	1			1											1							
Phaeocystis pouchetii																														
unid. Nanoflagellates	4	4	3	4	3	4	4	5	4	4	6	3	4	3	3	3	3	3	5	3		2	2	2	3	2	1	3	3	3
Zooplankton																														
Amoebae																														
Appendicularian																									1					
Barnacle nauplius																														
Bipinnaria																														
Ciliate	5	7	6	4	7	8	7	6	6	2	4	4	5	5	2	7	3	5	6	2		3	4	3	8	6	8	3	7	2
Copepod																												1		
Fungus																														
Nauplius					1									1		1														
Pluteus																														
Radiolarians																														
Rotifer																													1	
Tintinnid										1			1			1													1	
Zoea																														
other																											1			
Dominant Species/Group																														
name	*Pseudonitzschia sp.*	*Pseudonitzschia sp.*	*Pseudonitzschia sp.*	*Pseudonitzschia sp.*	*Pseudonitzschia sp.*	*Pseudonitzschia sp.*	*Skeletonema costatum*	*Skeletonema costatum*	*Skeletonema costatum*	*Skeletonema costatum*	dinoflagellates	*Skeletonema costatum*	*Skeletonema costatum*	*Alexandrium cf. tamarense*	*Skeletonema costatum*	dinoflagellates	*Alexandrium cf. tamarense*	*Skeletonema costatum*	*Noctiluca scintillans*	*Ceratium fusus*	no sample	*Chaetoceros affinis*	*Chaetoceros affinis*	*Chaetoceros affinis*	*Chaetoceros spp.*	*Skeletonema costatum*	*Skeletonema costatum*	*Skeletonema costatum*	*Ceratium fusus*	*Noctiluca scintillans*
count (cells/mL)	~300	3000	1400	1500	10700	4400	2600	3200	2600	2400	~100	8600	3500	~65	~700	~60	~25	~300	~7	~6		2000	~1000	~200	1200	3600	4000	~500	~7	~4
% constituent	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Diatoms	60	85	90	90	90	90	65	80	80	55	40	80	80	35	80	20	5	25	35	20	50	85	75	75	75	85	90	45	15	35
Dinoflagellates	4	9	5	5	5	5	17	13	13	30	45	10	10	55	10	40	70	50	40	70	32.5	10	15	15	15	10	5	40	60	55
Raphidophytes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Flagellates	3	1	1	1	1	1	3	2	2	5	5	5	2	1	5	5	5	5	5	3	3	1	1	1	1	1	1	5	3	5
Zooplankton	33	5	4	4	4	4	15	5	5	10	10	5	8	9	5	35	20	20	20	7	14.5	4	9	9	9	4	4	10	22	5
Biomass	2.5	4.0	3.5	3.5	4.5	4.0	3.5	4.0	3.5	3.0	2.5	3.5	3.0	3.0	2.0	2.0	2.0	2.0	2.5	2.0	2.0	4.0	3.5	2.0	3.0	4.0	3.0	2.5	2.0	2.0

Table 3 cont'd

date	07-Aug			14-Aug			21-Aug			29-Aug			03-Sep			30-Sep			16-Oct			29-Oct		
depth	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m
Other Flagellates																								
Cryptomonads																								
Dictyocha fibula / naked				1	1	1	1			1	1	1	1	1	1	1	1					1		
Dictyocha speculum				1	1	1			1				1	1			1	1	1		1			
Dinobryon balticum																								
Ebria tripartita						1																		
Euglenoid																								
Phaeocystis pouchetii																								
unid. Nanoflagellates	3	3	3	4	3	3	3	1	2	3	3	3	4	4	2	4	1	1	2	1	2	3	3	2
Zooplankton																								
Amoebae																								
Appendicularian				1			1		1		1										1			
Barnacle nauplius																								
Bipinnaria																								
Ciliate	4	4	3	3	9	4	2	1	2	3	6	7	3	5	3	5	5	2	9	10	7	4	1	1
Copepod																								
Fungus																								
Nauplius									1			1												
Pluteus																								
Radiolarians																								
Rotifer																								
Tintinnid																	1		1					
Zoea																								
other											1		1											
Dominant Species/Group																								
name	*Chaetoceros spp.*	*Ceratium fusus*	*Chaetoceros spp.*	*Chaetoceros spp.*	*Chaetoceros spp.*	*Chaetoceros spp.*	*Chaetoceros spp.*	*Chaetoceros spp.*	*Chaetoceros spp.*	*Ceratium fusus*	*Dictyocha speculum*	*Thalassiosira spp.*	*Rhizosolenia fragilissima*	*Rhizosolenia fragilissima*	*Thalassiosira spp.*	*Heterosigma akashiwo*	*Dictyocha speculum*	*Thalassiosira sp.*	*Heterosigma akashiwo*	*Heterosigma akashiwo*	*Heterosigma akashiwo*	ciliates	dinoflagellates	dinoflagellates
count (cells/mL)	~500	~2	~20	4000	3600	1500	4200	~60	[illegible]00	~8	~20	~30	8000	1200	~200	~105	~35	~20	~440	~390	~60	~10	~20	~5
% constituent	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Diatoms	75	20	40	80	80	80	90	65	80	5	15	60	92	85	90	35	30	35	8	5	30	5	20	25
Dinoflagellates	15	55	30	5	10	10	7	33	15	65	55	20	5	10	5	20	10	25	10	10	9	35	55	30
Raphidophytes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20	1	20	50	70	35	0	1	0
Other Flagellates	1	2	5	10	5	5	1	1	1	20	10	8	1	1	1	20	39	5	2	1	1	5	4	20
Zooplankton	9	23	25	5	5	5	2	1	4	10	20	12	2	4	4	5	20	15	30	14	25	55	20	25
Biomass	2.5	1.5	1.0	3.5	3.5	3.0	3.5	3.0	2.5	2.5	2.0	2.0	4.5	4.0	3.0	2.5	2.0	1.5	3.5	3.0	2.0	1.5	1.5	1.0

Table 4: Diatoms in Raza Island samples.

date	21-May			26-May			02-Jun			09-Jun			16-Jun			23-Jun			02-Jul			08-Jul			14-Jul			21-Jul			27-Jul		
depth	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m
Diatoms																																	
Achnanthes sp.																																	
Amphiprora/ Tropidoneis																																	
Asterionella japonica	1													1	1																		
Asteromphalus sp.																																	
Bacteriastrum sp.																																	
Biddulphia sp.		1																															
Campylosira/Plagiogramma																																	
Cerautalina sp.															1																		
Chaetoceros concavicorne	1							1																									
Chaetoceros convolutus			1					1																									
Chaetoceros sp.	2	4	4	4		1	3	3	2	1	2	1	1	5	3	1				3	2			1							1		
Corethron hystrix																																	
Coscinodiscus sp.																	1	1	1	1	1					1	1		1				
Cylindrotheca closterium		1	1	1	1	1	1	1	1	1	1	1		1	1				1				1	1									1
Dactylisolen sp.																																	
Detonula pumila																																	
Ditylum brightwellii															1																		
Eucampia zoodiacus				1									1			1																	
Grammatophora sp.																																	
Hemialus sp.																																	
Lauderia annulata																																	
Leptocylindrus danicus	1	1	1																1														
Leptocylindrus minimus																																	1
Licmophora sp.																																	
Melosira sp.																																	
Navicula sp.						1	1				1																			1			1
Nitzschioid sp.	1	2	2	1	1	2	1	2	1	1	1	1		1	1	1	1	1				1									1		
Pleurosigma/ Gyrosigma sp.																1																	
Pseudonitzschia sp.																																	
Rhizosolenia setigera				1						1																							
Rhizosolenia sp. (pointy)																																1	
Rhizosolenia sp. (blunt)			1			1				1															1	1	1				1	1	1
Rhizosolenia stolterfothii		1																															
Skeletonema costatum	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1						1	1	1
Stephanopyxis sp.																																	
Thalassionema sp.		1		1					1	1				1												1							
Thalassiosira sp.	1	1	1	1		1	2	2	2	1		1		2	2	3	1	1				2		1							1	1	1
misc centric																																	
misc pennate																																	

Table 4 cont'd

date	11-Aug			18-Aug			25-Aug			08-Sep			15-Sep			22-Sep			29-Sep			06-Oct			13-Oct			20-Oct			27-Oct		
depth	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m
Diatoms																																	
Achnanthes sp.																1																	
Amphiprora/ Tropidoneis																																	
Asterionella japonica																																	
Asteromphalus sp.																																	
Bacteriastrum sp.																																	
Biddulphia sp.																																	
Campylosira/Plagiogramma																																	
Cerautalina sp.											1											1											
Chaetoceros concavicorne																																	
Chaetoceros convolutus																																	
Chaetoceros sp.																1	1	1	3			8	7	6	3					1			
Corethron hystrix																																	
Coscinodiscus sp.										1	1		1	1	1	1	1	1															
Cylindrotheca closterium								1						1		1						1		1									
Dactylisolen sp.																																	
Detonula pumila																																	
Ditylum brightwellii																																	
Eucampia zoodiacus	1						1		1	1	1																						
Grammatophora sp.																																	
Hemialus sp.																																	
Lauderia annulata																																	
Leptocylindrus danicus	1												1		1	1	1	1	1	1	1	1	1	1									
Leptocylindrus minimus																																	
Licmophora sp.																																	
Melosira sp.																																	
Navicula sp.																1							1	1									
Nitzschioid sp.																																	
Pleurosigma/ Gyrosigma sp.																																	
Pseudonitzschia sp.												1	1	1		1	1	1	1	1	1	1	1	1			1						
Rhizosolenia setigera																			1	1			1	1									
Rhizosolenia sp. (pointy)																																	
Rhizosolenia sp. (blunt)			1																				1	1									
Rhizosolenia stolterfothii						1																											
Skeletonema costatum																1						1	1	1		1							
Stephanopyxis sp.																																	
Thalassionema sp.																				1				1									
Thalassiosira sp.			1		1					1	1		2	1	2	3	3	2	1	2	1	1		1			1						
misc centric																		1				1					1						
misc pennate													1						1				1	1									

Table 5: Dinoflagellates in Raza Island samples.

date	21-May			26-May			02-Jun			09-Jun			16-Jun			23-Jun			02-Jul			08-Jul			14-Jul			21-Jul			27-Jul		
depth	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m
Dinoflagellates																																	
Alexandrium sp.				1		1																											
Amphidinium sp.											1																						
Ceratium divericatum																																	
Ceratium furca																																	
Ceratium fusus																						1							1				
Ceratium lineatum																																	
Ceratium pentagonum																																	
Ceratium sp.															1				1														
Cochlodinium polykrikoides																																	
Cochlodinium sp.																			1														
Dinophysioid sp.			1					2					2	1	2	1				1		1	1		2	2	1	1	1		1	1	
Diplopsalis sp.																																	
Gonyaulacoid sp.														1																			
Gymnodinioid sp.	5	4	4	4	8	6	2	4	4	4	4	3	2	5	5	5	4	3	4	3	4	3	3	3	4	6	6	2	3	3	6	6	3
Gymnodinium sanguineum																																	
Gyrodinium spirale-type	1	1	2	2	1								2	2	1	1	1			1		1	1		2	2		1		1	2	1	1
Heterocapsa triquetra			1			1					1			1						1		1											
Noctiluca scintillans																													1				
Noctilucoid sp.																																	
Oxyphysis oxytoxoides																																	
Oxyrrhis marina																																	
Oxytoxum sp.																																	
Polykrikos sp.				1																													
Prorocentrum gracile																									1								
Prorocentrum micans																																	
Prorocentrum minimum													1																				
Prorocentrum sp.																																	
Protoceratium reticulatum																										1		1	1				
Protoperidinioid sp.	4	7	1	6	5	5	5	3	2	3	2	2	5	8	5			3	6	5	2	3	2	3	1	2	1		3	1	7	5	
Pyrocystis lunula																																	
Raphidophytes																																	
Heterosigma akashiwo																															1		

Table 5 cont'd

date	11-Aug			18-Aug			25-Aug			08-Sep			15-Sep			22-Sep			29-Sep			06-Oct			13-Oct			20-Oct			27-Oct		
depth	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m
Dinoflagellates																																	
Alexandrium sp.	1							1																									
Amphidinium sp.																																	
Ceratium divericatum																																	
Ceratium furca																																	
Ceratium fusus			1		1				1		1				1		1	1			1	1	1			1							
Ceratium lineatum																																	
Ceratium pentagonum																																	
Ceratium sp.											1																						
Cochlodinium polykrikoides																																	
Cochlodinium sp.																																	
Dinophysioid sp.		2	1				2	1	1		1					1				1			1										
Diplopsalis sp.																																	
Gonyaulacoid sp.								1																									
Gymnodinioid sp.	2	2	2	3	6	2	6	4	6	7	9	3	4	4	2	8	4	1	2	2	3	6	5	3	3	4	2	1		1	1		
Gymnodinium sanguineum																									1								
Gyrodinium spirale-type		2	1	1	1		2	2	2	1	1						1		1	1		1	1		1		1						
Heterocapsa triquetra																																	
Noctiluca scintillans		1		1															1	1		1	1										
Noctilucoid sp.																																	
Oxyphysis oxytoxoides																																	
Oxyrrhis marina																																	
Oxytoxum sp.																																	
Polykrikos sp.								1	1																								
Prorocentrum gracile																																	
Prorocentrum micans																																	
Prorocentrum minimum																																	
Prorocentrum sp.							1																										
Protoceratium reticulatum					1					1		1				1																	
Protoperidinioid sp.	1	1	2	1	1		2	1	5	4	2	2	1		1	3	2	2		2	1	5	4	1	3	2				1			
Pyrocystis lunula																																	
Raphidophytes																																	
Heterosigma akashiwo										1			1												1	1	1						

Table 6: Other flagellates, microzooplankton, dominant species, percent constituent, and total biomass in Raza Island samples.

	21-May			26-May			02-Jun			09-Jun			16-Jun			23-Jun			02-Jul			08-Jul			14-Jul			21-Jul			27-Jul		
	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m
Other Flagellates																																	
Cryptomonads																																	
Dictyocha speculum	1	1	1			1			1		1		1	1		1	1		1	1	1	1	1	1	1	1	1				1	1	1
Dictyocha fibula / naked																									1	1	1	1	1	1	1	1	1
Dinobryon balticum																																	
Ebria tripartita	1											1			1					1													
Euglenoid		1		1	1	1																											
Phaeocystis pouchetii																																	
Radiolarian																																	
unid. Nanoflagellates	4	4	3	4	4	4	2	3	2	5	5	4	5	3	3	3	3	3	3	3	2	4	3	3	3	3	3	2	2	2	4	3	3
Zooplankton																																	
Appendicularian										1																							
Ciliate	6	6	4	8	6	5	2	2	3	7	3	1	5	6	7	3	1		4	2	3	8	8	5	3	2	3	5	2	3	7	7	2
Copepod																																	
Nauplius														1	1		1									1							
Pluteus																																	
Rotifer					1			1																									
Tintinnid	1	1		2	1	1	1			1		1	1	1	1				1	1	1	1	1										
Zoea																																	
other																																	
Dominant Species/Group																																	
name	*Skeletonema costatum*	*Skeletonema costatum*	*Skeletonema costatum*	*Skeletonema costatum*	*Skeletonema costatum*	*Skeletonema costatum*	*Skeletonema costatum*	*Skeletonema costatum*	*Skeletonema costatum*	*Skeletonema costatum*	*Skeletonema costatum*	*Skeletonema costatum*	*Skeletonema costatum*	*Skeletonema costatum*	*Skeletonema costatum*	*Dictyocha speculum*	*Thalassiosira sp.*	*Skeletonema costatum*	*Skeletonema costatum*	*Skeletonema costatum*	*Skeletonema costatum*	*Skeletonema costatum*	*Skeletonema costatum*	*Skeletonema costatum*	*Dictyocha speculum*	*Dictyocha speculum*	*Dictyocha speculum*	*Dictyocha speculum*	*Dictyocha speculum*	*Dictyocha speculum*	*Skeletonema costatum*	*Skeletonema costatum*	*Skeletonema costatum*
count (cells/mL)	~600	~500	~300	3800	2800	~500	1400	2300	1600	7200	3600	4000	~300	~100	~150	~25	~5	~40	4000	1900	1800	5200	2500	~500	~270	~220	~150	~370	~400	~90	17000	5000	1100
% constituent	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Diatoms	75	60	75	75	65	70	85	85	90	90	85	90	45	35	35	35	50	65	75	75	70	65	60	60	2	8	8	0	2	1	60	50	40
Dinoflagellates	10	15	8	15	20	20	10	10	6	5	10	8	30	40	40	20	20	30	10	15	10	10	12	10	8	12	7	5	10	10	5	5	10
Raphidophytes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Flagellates	10	15	10	3	3	2	1	1	1	1	2	1	5	5	5	30	15	5	5	5	10	5	3	10	80	75	80	75	85	85	30	40	45
Zooplankton	5	10	7	7	12	8	4	4	3	4	3	1	20	20	20	15	15	0	10	5	10	20	25	20	10	5	5	20	3	4	5	5	5
Biomass	2.5	2.5	2.5	3.5	3.0	2.5	3.0	3.0	2.5	3.5	3.0	3.0	2.0	2.0	2.0	2.0	1.5	1.5	3.0	2.5	2.5	3.5	3.0	2.0	3.0	3.0	2.5	3.5	3.5	2.5	4.5	4.0	3.0

Table 6 cont'd

date	11-Aug			18-Aug			25-Aug			08-Sep			15-Sep			22-Sep			29-Sep			06-Oct			13-Oct			20-Oct			27-Oct		
depth	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m
Other Flagellates																																	
Cryptomonads																																	
Dictyocha speculum	1	1									1	1							1	1	1		1	1			1			1	1	1	
Dictyocha fibula / naked	1	1	1	1	1	1	1	1	1	1	1					1																	
Dinobryon balticum																																	
Ebria tripartita								1			1	1		1																			
Euglenoid																																	
Phaeocystis pouchetii																																	
Radiolarian																																	
unid. Nanoflagellates	3	4	2	3	3	2	5	3	3	6	4	4	3	3	3	3	3	2	1	4	2	1	2	2	3	2	4	2	1	3	3	2	3
Zooplankton																																	
Appendicularian							1		1																								
Ciliate	2	2	1	4	1	2	8	8	8	8	6	8	3	4	2	4	5	6	3	1	1	4	5	1	5		3	1	2		6	2	1
Copepod																																	
Nauplius					1																												
Pluteus																																	
Rotifer	1																			1													
Tintinnid							1	2	1	2		1					1																
Zoea																																	
other														1			1																
Dominant Species/Group																																	
name	*Dictyocha speculum*	*Dictyocha speculum*	*Dictyocha speculum*	*Dictyocha speculum*	*Dictyocha speculum*	*Dictyocha speculum*	*Dictyocha speculum*	*Dictyocha speculum*	*Dictyocha speculum*	ciliates & tintinnids	ciliates	*Pseudonitzschia sp.*	*Pseudonitzschia sp.*	*Thalassiosira rotula*	*Thalassiosira spp.*	*Thalassiosira rotula*	*Thalassiosira rotula*	*Thalassiosira rotula*	*Pseudonitzschia sp.*	*Pseudonitzschia sp.*	*Pseudonitzschia sp.*	*Pseudonitzschia sp.*	*Pseudonitzschia sp.*	*Pseudonitzschia sp.*	dinoflagellates	*Ceratium fusus*	dinoflagellates	nanoflagellates	ciliates	nanoflagellates	ciliates	ciliates	ciliates
count (cells/mL)	~12	~440	~50	~350	~120	~100	~40	~40	~30	~40	~50	~10	~20	~28	~8	590	900	~270	~520	~350	~70	1400	1500	~800	~20	~2	~10	~50	~3	~100	~20	~5	~2
% constituent	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Diatoms	20	0	5	0	1	2	5	2	2	10	10	20	55	75	65	70	85	90	85	85	85	70	85	90	10	5	30	0	0	10	0	0	0
Dinoflagellates	25	20	30	10	17	5	35	18	40	30	30	20	20	10	20	15	5	5	10	10	12	20	9	7	45	80	50	25	0	30	10	0	0
Raphidophytes	0	0	0	0	0	0	0	0	0	5	0	0	1	0	0	0	0	0	0	0	0	0	0	0	5	10	5	0	0	0	0	0	0
Other Flagellates	35	60	60	85	80	85	30	40	28	5	5	10	9	3	2	1	1	1	1	3	1	0	1	1	5	5	5	50	40	60	35	40	50
Zooplankton	20	20	5	5	2	8	30	40	30	50	55	50	15	12	13	14	9	4	4	2	2	10	5	2	35	0	10	25	60	0	55	60	50
Biomass	2.0	3.5	2.5	3.0	3.0	2.5	2.5	2.5	2.5	2.0	2.0	1.5	2.0	1.5	1.5	3.5	3.5	3.0	3.5	2.5	2.0	4.0	4.0	4.0	1.5	1.5	1.0	1.0	1.0	1.0	1.5	1.0	1.0

Table 7 : Diatoms in Conville Bay samples.

date	26-Jun			03-Jul			10-Jul			16-Jul			23-Jul			31-Jul			06-Aug			13-Aug			21-Aug			27-Aug		
depth	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m
Diatoms																														
Achnanthes sp.																														
Amphiprora/ Tropidoneis																														
Asterionella japonica																														
Asteromphalus sp.								1	1		1																			
Bacteriastrum sp.																														
Biddulphia sp.																														
Campylosira/Plagiogramma																														
Cerautalina sp.																														
Chaetoceros concavicorne																														
Chaetoceros convolutus																														
Chaetoceros sp.								1								1	1	1	2	2	1									
Corethron hystrix																														
Coscinodiscus sp.	1	1	1	1			1	1	1				1	1		1			1	1	1							1		
Cylindrotheca closterium				1		1	1																							
Dactyliosolen sp.																														
Detonula pumila																														
Ditylum brightwellii																														
Eucampia zoodiacus							1		1										1	1										
Grammatophora sp.																														
Hemiaulus sp.																														
Lauderia annulata																														
Leptocylindrus danicus											1												1							
Leptocylindrus minimus											1																			
Licmophora sp.																														
Melosira sp.																														
Navicula sp.			1	1									1																	
Nitzschioid sp.	1	1		1		1	1	1	1					1																
Pleurosigma/ Gyrosigma sp.																					1									
Pseudonitzschia sp.																														
Rhizosolenia setigera																														
Rhizosolenia sp. (pointy)																														
Rhizosolenia sp. (blunt)							1	1		1	1					2	1	1	1											
Rhizosolenia stolterfothii																														
Skeletonema costatum						1	1	1	1							1	1	1	1										1	
Stephanopyxis sp.																														
Striatella/Rhabdonema																														
Thalassionema sp.																														
Thalassiosira sp.	1	1	1	1	1	1	1		1	1			1		2	2	2	1	2	2	1			1	1					1
misc centric																														
misc pennate																1														

Table 7 cont'd

date	04-Sep			10-Sep			17-Sep			25-Sep			01-Oct			08-Oct			15-Oct			22-Oct			29-Oct		
depth	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m
Diatoms																											
Achnanthes sp.										1																	
Amphiprora/ Tropidoneis																	1										
Asterionella japonica																											
Asteromphalus sp.																											
Bacteriastrum sp.																											
Biddulphia sp.																											
Campylosira/Plagiogramma																											
Cerautalina sp.													1														
Chaetoceros concavicorne																											
Chaetoceros convolutus																											
Chaetoceros sp.			1			1				4	4	3	4	7	3	2		4									
Corethron hystrix																											
Coscinodiscus sp.	1	1	1	2	1	1	1	1	1					1													
Cylindrotheca closterium										1					1												
Dactylisolen sp.																											
Detonula pumila																											
Ditylum brightwellii																1											
Eucampia zoodiacus				1																							
Grammatophora sp.																											
Hemialus sp.																											
Lauderia annulata																											
Leptocylindrus danicus			1							1	1	1	1	1	1												
Leptocylindrus minimus																											
Licmophora sp.				1																							
Melosira sp.																									1		
Navicula sp.			1	1	1		1					1															
Nitzschioid sp.																											
Pleurosigma/ Gyrosigma sp.																											
Pseudonitzschia sp.										1	1	1	1	1	1	1	1										
Rhizosolenia setigera												1	1		1	1	1	1		1							
Rhizosolenia sp. (pointy)																											
Rhizosolenia sp. (blunt)																											
Rhizosolenia stolterfothii																											
Skeletonema costatum										1	1		1	1	1												
Stephanopyxis sp.																	1										
Striatella/Rhabdonema																											
Thalassionema sp.											1		1	1	1												
Thalassiosira sp.	1	1		1		1	1	1	1	2	2	1	1	1	1	2	1	1			1			1			
misc centric								1	1		1							1									
misc pennate						1									2	1											

Table 8 : Dinoflagellates in Conville Bay samples.

date	26-Jun			03-Jul			10-Jul			16-Jul			23-Jul			31-Jul			06-Aug			13-Aug			21-Aug			27-Aug		
depth	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m
Dinoflagellates																														
Alexandrium sp.																														
Amphidinium sp.																														
Ceratium divericatum																														
Ceratium furca																														
Ceratium fusus						1														1										
Ceratium lineatum																								1						
Ceratium pentagonum																														
Ceratium sp.				1	1		1		1																					
Cochlodinium polykrikoides																												1		
Cochlodinium sp.									1																					
Dinophysioid sp.	1		1	2	1	1	3	1	1	1		1	1					1			1			1				2	1	
Diplopsalis sp.																														
Gonyaulacoid sp.								1																				1		
Gymnodinioid sp.	6	6	6	6	3	5	7	9	5	4	4	2	3	2		2	4	2	4	2	1	4	5	2	5	2	4	2	1	2
Gymnodinium galatheanum																														
Gymnodinium sanguineum																														
Gyrodinium spirale-type	1	2	1	1	2		1	2	2		1					1	1	1	1	1	1			1	2	1		1	2	1
Heterocapsa triquetra	1			1	1	1	1	1	1																					
Noctiluca scintillans																			1	1	1	1								
Noctilucoid sp.																														
Oxyphysis oxytoxoides																														
Oxyrrhis marina																														
Oxytoxum sp.																														
Polykrikos sp.																					1									
Prorocentrum gracile				1	1		1	1											1											
Prorocentrum micans							1																							
Prorocentrum sp.																														
Protoceratium reticulatum																														
Protoperidinioid sp.	1	3	1	6	7	4	5	4	6		2		1	1		1	2	1	4	3	1	2	1	1	2	2	2			
Pyrocystis lunula																														
Raphidophytes																														
Heterosigma akashiwo	1			1	1	1	1	1	1	1	1							1												

Table 8 cont'd

date	04-Sep			10-Sep			17-Sep			25-Sep			01-Oct			08-Oct			15-Oct			22-Oct			29-Oct		
depth	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m
Dinoflagellates																											
Alexandrium sp.																											
Amphidinium sp.																											
Ceratium divericatum																											
Ceratium furca																											
Ceratium fusus														1			1										
Ceratium lineatum																											
Ceratium pentagonum																											
Ceratium sp.																											
Cochlodinium polykrikoides	1			1			1																				
Cochlodinium sp.																											
Dinophysioid sp.								1			2		1			2		1		1							
Diplopsalis sp.																											
Gonyaulacoid sp.	1										1																
Gymnodinioid sp.	5	4	2	1	4	3	2			7	5	5	3	6	3	2	6	4		1	2	2	1		1	1	2
Gymnodinium galatheanum																											
Gymnodinium sanguineum	1																										
Gyrodinium spirale-type	1	1	1										2				1	1									
Heterocapsa triquetra																											
Noctiluca scintillans													1	1	1	1		1									
Noctilucoid sp.																											
Oxyphysis oxytoxoides																											
Oxyrrhis marina																											
Oxytoxum sp.																											
Polykrikos sp.																											
Prorocentrum gracile	1			1							1																
Prorocentrum micans																											
Prorocentrum sp.																											
Protoceratium reticulatum				1	1		1			1																	
Protoperidinioid sp.	3	1	1		3		2	1	1	2	3	2	3	3	2	2	3		1			1	1				
Pyrocystis lunula																											
Raphidophytes																											
Heterosigma akashiwo										1	1	1									1						

Table 9 : Other flagellates, microzooplankton, dominant species, percent constituent, and total biomass in Conville Bay samples.

date	26-Jun			03-Jul			10-Jul			16-Jul			23-Jul			31-Jul			06-Aug			13-Aug			21-Aug			27-Aug		
depth	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m
Other Flagellates																														
Cryptomonads																														
Dictyocha fibula / naked							1	1	1	1	1	1	1	1	1	1	1	1	1	1		1	1	1	1	1	1	1	1	
Dictyocha speculum	1	1	1	1	1	1	1			1	1	1	1				1	1				1		1						
Dinobryon balticum																														
Ebria tripartita																														
Euglenoid	1	1																												
Phaeocystis pouchetii																														
unid. Nanoflagellates	4	3	3	4	3	3	5	4	3	3	3	4	3	1	2	3	3	2	2	1	1	3	2	2	3	2	2	3	4	2
Zooplankton																														
Appendicularian																														
Barnacle nauplius																														
Ciliate	7	8	6	7	6	3	5	4	2	3	5	3	3	2		2	4	1	5	1		3	2		4	4	2	7	3	3
Copepod							1	1																						
Nauplius					1			1																						
Radiolarians									1																					
Rotifer																														
Tintinnid				1				1																						
Zoea																														
other				1																										
Dominant Species/Group																														
name	*Dictyocha speculum*	*Coscinodiscus sp.*	*Dictyocha speculum*	*Heterocapsa triquetra*	*Thalassiosira eccentrica*	*Thalassiosira eccentrica*	*Dictyocha speculum*	*Dictyocha speculum*	*Dictyocha speculum*	*Dictyocha speculum*	*Dictyocha speculum*	*Dictyocha speculum*	*Dictyocha speculum*	*Dictyocha speculum*	*Dictyocha speculum*	*Skeletonema costatum*	*Skeletonema costatum*	*Skeletonema costatum*	*Thalassiosira rotula*	*Thalassiosira rotula*	*Thalassiosira rotula*	*Dictyocha speculum*	*Dictyocha speculum*	*Dictyocha speculum*	*Dictyocha speculum*	*Dictyocha speculum*	*Dictyocha speculum*	*Dictyocha speculum*	*Gyrodinium spirale*	ciliates
count (cells/mL)	~30	~5	~40	~320	~8	~10	~50	~30	~10	~470	~380	~370	~50	~100	~65	2000	2000	1100	~80	540	~135	~185	~200	~125	~20	~10	~10	~20	~3	~5
% constituent	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Diatoms	5	20	20	10	25	40	20	19	35	5	4	0	20	10	10	70	70	80	65	90	90	0	1	1	5	0	0	5	5	10
Dinoflagellates	25	20	20	45	40	35	29	40	40	10	10	5	10	10	0	10	10	10	15	5	9	15	5	9	40	35	30	35	50	30
Raphidophytes	0	0	0	25	5	10	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Flagellates	25	20	25	10	10	5	35	30	20	70	75	85	60	70	90	15	15	5	10	3	1	75	90	90	30	30	50	30	15	10
Zooplankton	45	40	35	10	20	10	15	10	4	14	10	10	10	10	0	5	5	5	10	2	0	10	4	0	25	35	20	30	30	50
Biomass	2.0	2.0	2.0	3.5	2.0	2.0	2.5	2.5	2.0	3.5	3.0	3.0	2.5	2.5	2.5	2.5	2.5	2.5	2.5	3.5	3.0	2.5	3.0	2.5	2.5	2.0	1.5	2.0	1.5	1.0

Table 9 cont'd

date	04-Sep			10-Sep			17-Sep			25-Sep			01-Oct			08-Oct			15-Oct			22-Oct			29-Oct		
depth	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m
Other Flagellates																											
Cryptomonads																											
Dictyocha fibula / naked				1	1	1					1		1														
Dictyocha speculum				1	1									1			1	1					1				
Dinobryon balticum																											
Ebria tripartita																											
Euglenoid	1					1																					
Phaeocystis pouchetii																											
unid. Nanoflagellates	7	4	3	5	4	3	2	2	2	3	2	2	2	1		3	2	2	2	2	1	3	1	1	3	3	3
Zooplankton																											
Appendicularian																											
Barnacle nauplius																											
Ciliate	7	4	5	9	7	5	3	4	2	4	2	1	6	4	4	3	5	5	1	6	3	1	4	3		1	4
Copepod																											
Nauplius										2								1									
Radiolarians																											
Rotifer				1										1													
Tintinnid			1																								
Zoea																											
other													1	1													
Dominant Species/Group																											
name	dinoflagellates	*Thalassiosira rotula*	*Coscinodiscus sp.*	*Coscinodiscus spp.*	*Coscinodiscus sp.*	*Coscinodiscus sp.*	*Thalassiosira rotula*	*Thalassiosira rotula*	*Thalassiosira rotula*	*Thalassiosira rotula*	*Pseudonitzschia sp.*	*Pseudonitzschia sp.*	*Pseudonitzschia sp.*	*Pseudonitzschia sp.*	*Pseudonitzschia sp.*	*Thalassiosira sp.*	dinoflagellates	dinoflagellates	ciliates	ciliates	cilictes	dinoflagellates	ciliates	ciliates	nanoflagellates	nanoflagellates	nanoflagellates
count (cells/mL)	~80	~5	~2	~10	~4	~2	~100	~7	~15	~300	~330	~80	2400	5400	~780	~10	~20	~20	~3	~10	~7	~5	~10	~8	~50	~50	~50
% constituent	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Diatoms	30	25	40	65	60	55	80	65	85	90	85	90	87	95	95	35	20	30	0	2	25	0	0	10	30	0	0
Dinoflagellates	35	25	20	10	15	15	10	10	5	5	10	5	8	2	2	50	60	45	20	5	10	60	20	0	20	20	20
Raphidophytes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0
Other Flagellates	5	20	10	10	10	15	1	1	1	1	1	1	1	1	1	5	5	5	20	5	5	20	10	5	50	60	50
Zooplankton	30	30	30	15	15	15	9	24	9	4	4	4	4	2	2	10	15	20	60	88	55	20	70	85	0	20	30
Biomass	2.0	1.5	1.5	2.5	2.0	1.5	2.0	1.5	1.5	3.5	3.0	2.5	4.5	4.5	3.5	1.5	1.5	1.5	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Table 10 : Diatoms in Kunechin Point samples.

date	20-May			26-May			09-Jun			16-Jun			30-Jun			07-Jul			14-Jul			21-Jul			28-Jul			04-Aug		
depth	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m
Diatoms																														
Achnanthes sp.																														
Amphiproral Tropidoneis																														
Asterionella japonica												1																		
Asteromphalus sp.												1																		
Bacteriastrum sp.																														
Biddulphia sp.																														
Campylosiral Plagiogramma																														
Cerautalina sp.										1		1							1											
Chaetoceros concavicorne																														
Chaetoceros convolutus		1	1		1	1																								
Chaetoceros sp.	5	2	5	2	4	2	5	10	8	5	4	8				1														
Corethron hystrix																														
Coscinodiscus sp.		1						1		1	1																		1	1
Cylindrotheca closterium	1		1		1		1	1	1		1					1			1				1		1					
Dactylisolen sp.																														
Detonula pumila																														
Ditylum brightwellii																														
Eucampia zoodiacus										1	1	1																		
Grammatophora sp.																						1								
Hemiaulus sp.																														
Lauderia annulata																														
Leptocylindrus danicus	1	1	1			1													1											
Leptocylindrus minimus																						1	1	1						
Licmophora sp.	1	1			1			1		1			1		1				1			1		1						
Melosira sp.																														
Navicula sp.	1	1						1				1			1								1	1	1		1			
Nitzschioid sp.		1	2		1		1	1	1	1	1	1										1								
Pleurosigmal Gyrosigma sp.											1																			1
Pseudonitzschia sp.																														
Rhizosolenia setigera										1	1	1																		
Rhizosolenia sp. (pointy)																														
Rhizosolenia sp. (blunt)	1	1								1												1	1	1	1	1	1	2	1	
Rhizosolenia stolterfothii																														
Skeletonema costatum							1	1	1	1	1	1	1						1		1	1	1	1	1					1
Stephanopyxis sp.																														
Striatella sp.																														
Thalassionema sp.	1				1	1				1		1																		
Thalassiosira sp.	1		1	1	1		2	2	2	2	2	2	1	1	1										1			1		
misc centric																														
misc pennate																								1						1

Table 10 cont'd

date	25-Aug			01-Sep			08-Sep			15-Sep			22-Sep			29-Sep			05-Oct		
depth	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m
Diatoms																					
Achnanthes sp.																					
Amphiprora/ Tropidoneis																					
Asterionella japonica																					
Asteromphalus sp.																					
Bacteriastrum sp.																					
Biddulphia sp.																					
Campylosira/Plagiogramma																					
Cerautalina sp.																					
Chaetoceros concavicorne								1		1	1	1	1	1	1	1	1	1			
Chaetoceros convolutus											1						1	1		1	1
Chaetoceros sp.	3		1				11	4	2	10	12	9	9	5	2		4				
Corethron hystrix											1										
Coscinodiscus sp.										1	1										
Cylindrotheca closterium										1	1	1	1	1	1						
Dactylisolen sp.																					
Detonula pumila																					
Ditylum brightwellii																					
Eucampia zoodiacus														1							
Grammatophora sp.																					
Hemiaulus sp.																					
Lauderia annulata																					
Leptocylindrus danicus	1		1								1										
Leptocylindrus minimus																					
Licmophora sp.																					
Melosira sp.																					
Navicula sp.	1		1						1	1	1	1	1	1							
Nitzschioid sp.																					
Pleurosigma/ Gyrosigma sp.																					
Pseudonitzschia sp.						1	1	1		1	1	1	1	1	1		1				
Rhizosolenia setigera							1		1	1	1		1				1	1		1	
Rhizosolenia sp. (pointy)																					
Rhizosolenia sp. (blunt)										1	1		1								
Rhizosolenia stolterfothii																					
Skeletonema costatum							1	1		1	1	1	1	1	1	1	1	1			
Stephanopyxis sp.																					
Striatella sp.																					
Thalassionema sp.							1			1	1	1	1	1	1			1			
Thalassiosira sp.	1	1			1	1	1	2	1	3	3	2	1	1	1			1			
misc centric																					
misc pennate													1	1	1	1				1	

Table 11 : Dinofagellates in Kunechin Point samples.

date	20-May			26-May			09-Jun			16-Jun			30-Jun			07-Jul			14-Jul			21-Jul			28-Jul			04-Aug		
depth	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m
Dinoflagellates																														
Alexandrium sp.	1	1		1	1			1	1	1	1	1																		
Amphidinium sp.																														
Ceratium divaricatum																														
Ceratium furca																														
Ceratium fusus								1					1		1	1			1											
Ceratium lineatum																														
Ceratium pentagonum																														
Ceratium sp.																														
Cochlodinium polykrikoides																														
Cochlodinium sp.																														
Dinophysioid sp.							1	1	1		1	1	1						1	1		1	1							
Diplopsalis sp.																														
Gonyaulacoid sp.	1	1	1																											
Gymnodinioid sp.	8	8	8	4	6	3		4	2	2	4	3	4	4	3	5	4	4	2			1	1	1	3	1	2	2	4	4
Gymnodinium galatheanum																														
Gyrodinium spirale-type		1	2	2	2			1	1							1										1	1	1	1	
Heterocapsa triquetra													1							1										
Noctiluca scintillans																														
Noctilucoid sp.																														
Oxyrrhis marina																										1				
Oxyphysis oxytoxoides																														
Polykrikos sp.																														
Prorocentrum gracile																														
Prorocentrum micans																														
Prorocentrum sp.																														
Protoperidinioid sp.	3	5	3	4	1	3	1	4	1	1	1	1	1			1	1								1		1	1		
Pyrocystis lunula																														
Raphidophytes																														
Heterosigma akashiwo										1		1		1						1	1									

Table 11 cont'd

date	25-Aug			01-Sep			08-Sep			15-Sep			22-Sep			29-Sep			05-Oct		
depth	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m
Dinoflagellates																					
Alexandrium sp.																					
Amphidinium sp.														1							
Ceratium divaricatum																					
Ceratium furca																					
Ceratium fusus							1						1								
Ceratium lineatum																					
Ceratium pentagonum																					
Ceratium sp.																				1	
Cochlodinium polykrikoides																					
Cochlodinium sp.																					
Dinophysioid sp.	1												1			1					
Diplopsalis sp.																					
Gonyaulacoid sp.																					
Gymnodinioid sp.	4	4	3	2	3	4	5	2	2	4	5	1	7		2	2	3	1	2	2	
Gymnodinium galatheanum																					
Gyrodinium spirale-type			1			1														1	
Heterocapsa triquetra																					
Noctiluca scintillans																					
Noctilucoid sp.																					
Oxyrrhis marina																					
Oxyphysis oxytoxoides																					
Polykrikos sp.																					
Prorocentrum gracile																					
Prorocentrum micans																					
Prorocentrum sp.																					
Protoperidinioid sp.					1		1	1	1		1	1	3	1							
Pyrocystis lunula																					
Raphidophytes																					
Heterosigma akashiwo																					

Table 12 : Other flagellates, microzooplankton, dominant species, percent constituent, and total biomass in Kunechin Point samples.

date	20-May			26-May			09-Jun			16-Jun			30-Jun			07-Jul			14-Jul			21-Jul			28-Jul			04-Aug		
depth	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m
Other Flagellates																														
Cryptomonads																														
Dictyocha fibula / naked																			1	1	1	1	1	1	1	1	1	1	1	1
Dictyocha speculum			1															1		1	1								1	
Dinobryon balticum																														
Ebria tripartita										1																				
Euglenoid																														
Phaeocystis pouchetii																														
Radiolarian																														
unid. Nanoflagellates	5	4	4	3	3	3	3	5	5	3	2	2	3	2	3	4	3	4	2	3	3	2	3	3	3	4	2	1	1	2
Zooplankton																														
Amoeba																														
Appendicularian																														
Ciliate	9	9	8	8	3	2		5	3	2	2	4	1	3	3	5	5	5	1		2	2	1	2	3	3	2	1	1	2
Copepod							1																							
Nauplius									1																			1		
Pluteus																														
Rotifer																														
Tintinnid										1		1																		
Zoea																														
other																													1	
Dominant Species/Group																														
name	*Leptocylindrus danicus*	*Leptocylindrus danicus*	*Leptocylindrus danicus*	ciliates	*Chaetoceros convolutus*	*Chaetoceros convolutus*	*Skeletonema costatum*	*Skeletonema costatum*	*Skeletonema costatum*	*Skeletonema costatum*	*Skeletonema costatum*	*Chaetoceros spp.*	*Ceratium fusus*	Gymnodinioid sp.	*Ceratium fusus*	ciliates	ciliates	ciliates	*Dictyocha speculum*	*Dictyocha speculum*	*Dictyocha speculum*	*Rhizosolenia fragilissima*	*Dictyocha speculum*	*Dictyocha speculum*	*Rhizosolenia fragilissima*	*Dictyocha speculum*	*Rhizosolenia fragilissima*	*Dictyocha speculum*	*Dictyocha speculum*	*Dictyocha speculum*
count (cells/mL)	2400	~1000	~500	~70	~12	~22	~1800	~1200	~1000	~1000	~800	~800	~2	~20	~1	~50	~50	~50	~90	~150	~65	1200	~30	~20	4000	~150	~800	~100	~200	~390
% constituent	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Diatoms	75	70	75	20	70	75	90	65	65	75	65	70	15	10	20	15	0	0	10	0	5	60	40	40	90	20	50	10	15	10
Dinoflagellates	10	15	10	35	19	20	6	20	15	10	25	20	45	44	40	35	20	30	30	10	0	5	5	5	5	15	20	20	10	10
Raphidophytes	0	0	0	0	0	0	0	0	0	5	0	1	0	1	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0
Other Flagellates	2	1	1	5	1	1	3	2	2	5	2	1	30	10	10	10	10	10	50	88	83	25	50	45	2	60	20	65	70	75
Zooplankton	13	14	14	40	10	4	1	13	18	5	8	8	10	35	30	40	70	60	10	0	10	10	5	10	3	5	10	5	5	5
Biomass	4.0	3.5	3.0	2.0	2.0	2.0	3.0	3.0	2.5	2.0	2.0	2.5	1.5	1.5	1.5	2.0	1.5	1.5	2.0	2.0	2.0	2.5	2.0	2.0	2.0	3.0	1.5	2.5	2.5	3.0

Table 12 cont'd

date	25-Aug			01-Sep			08-Sep			15-Sep			22-Sep			29-Sep			05-Oct		
depth	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m
Other Flagellates																					
Cryptomonads																					
Dictyocha fibula / naked				1												1					
Dictyocha speculum																1					
Dinobryon balticum																					
Ebria tripartita																					
Euglenoid									1			1									1
Phaeocystis pouchetii																					
Radiolarian																					
unid. Nanoflagellates	4	3	4	3	5	4	3	4	3	4	3	4	3	1	3	3	3	2	3	2	1
Zooplankton																					
Amoeba			1																		
Appendicularian																					
Ciliate	7	10	7	2	4	4	4	2	2	3	3	2	2	2	2	5	2	4	5	4	4
Copepod																					
Nauplius																1	1				
Pluteus																					
Rotifer																					
Tintinnid													1								
Zoea																					
other																1					
Dominant Species/Group																					
name	*Leptocylindrus danicus*	ciliates	ciliates	*Dictyocha speculum*	*Thalassiosira sp.*	*Thalassiosira sp.*	*Skeletonema costatum*	*Skeletonema costatum*	*Navicula sp.*	*Chaetoceros spp.*	*Chaetoceros spp.*	*Chaetoceros spp.*	*Chaetoceros concavicorne*	*Chaetoceros concavicorne*	*Chaetoceros concavicorne*	ciliates	*Ch. convolutus & concavico*	*Ch. convolutus & concavico*	ciliates	*Chaetoceros convolutus*	*Chaetoceros convolutus*
count (cells/mL)	~320	~80	~60	~3	~40	~20	~500	~200	~20	1000	~1500	1000	~57	~6	~17	~20	~94	~40	~20	~10	~6
% constituent	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Diatoms	35	2	10	0	30	40	85	85	70	85	90	93	90	90	90	10	95	90	0	60	75
Dinoflagellates	15	18	30	30	20	30	10	10	15	8	6	2	7	5	5	30	2	5	5	15	0
Raphidophytes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Flagellates	20	20	10	40	20	10	1	1	5	2	1	2	1	1	1	20	1	1	5	1	5
Zooplankton	30	60	50	30	30	20	4	4	10	5	3	3	2	4	4	40	2	4	90	24	20
Biomass	2.5	2.0	2.0	1.0	1.5	1.5	3.0	2.0	1.5	2.5	3.0	2.5	3.5	1.5	2.0	1.5	3.0	2.0	1.5	1.5	1.5

Table 13 : Diatoms in Departure Bay samples.

date	06-Mar			20-Mar			27-Mar			03-Apr			10-Apr			17-Apr			24-Apr			01-May			08-May			15-May		
depth	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m
Diatoms																														
Achnanthes sp.																														
Amphiprora/ Tropidoneis																														
Asterionella japonica																								1						
Asteromphalus sp.																														
Asteromphalus heptactis																														
Bacteriastrum sp.																														
Biddulphia sp.																														
Cerautalina sp.																														
Chaetoceros concavicorne	1		1		1			1	1	1																				
Chaetoceros convolutus										1		1	1										1	1						
Chaetoceros sp.	3	1	5	1	1	1	3	5	2	6	5	2	3	3	2	6	6	5	6	5	4	4	5	9				1		
Corethron hystrix										1				1																
Coscinodiscus sp.								1					1	1	1															
Cylindrotheca closterium				1					1			1		1						1				1						
Dactylisolen sp.																														
Detonula pumila		1	1		1	1	1	1	1	1		1	1	1	1	1	1	1					1							
Ditylum brightwellii										1		1		1	1	1	1			1										
Eucampia zoodiacus																														
Grammatophora sp.																														
Hemiaulus sp.																														
Lauderia annulata																			1											
Leptocylindrus danicus					1					1																				
Leptocylindrus minimus																														
Licmophora sp.						1																								
Melosira sp.																														
Navicula sp.				1	1	1																								
Nitzschioid sp.																														
Pleurosigma/ Gyrosigma sp.																														
Pseudonitzschia sp.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1						
Rhizosolenia setigera																							1	1						
Rhizosolenia sp. (pointy)																														
Rhizosolenia sp. (blunt)									1				1		1		1	1	1			1	1	1						
Rhizosolenia stolterfothii																			1					1						
Skeletonema costatum	1		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1					
Stephanopyxis sp.							1				1		1																	
Thalassionema sp.				1	1	1			1	1			1			1	1	1		1	1			1						
Thalassiosira sp.	2	2	2	2	3	3	3	3	4	3	4	4	3	3	3	3	4	4	2	3	3	1		1						
misc. centric																														
misc. pennate	1										1	1			1		1													

Table 13 cont'd

date	22-May			29-May			05-Jun			12-Jun			26-Jun			03-Jul			10-Jul			17-Jul			24-Jul			01-Aug		
depth	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m
Diatoms																														
Achnanthes sp.																														
Amphiprora/ Tropidoneis																														
Asterionella japonica					1	1	1	1	1	1	1	1																		
Asteromphalus sp.																														
Asteromphalus heptactis																														
Bacteriastrum sp.																														
Biddulphia sp.																														
Cerautalina sp.											1																			1
Chaetoceros concavicorne																														
Chaetoceros convolutus				1		1			1			1																		
Chaetoceros sp.	3		3	9	8	8	8	5	5	6	10	10																		
Corethron hystrix																														
Coscinodiscus sp.	1			1			1	1	1									1					1	1	1	1	1	1	1	1
Cylindrotheca closterium					1	1	1	1	1	1	1	1		1				1						1						
Dactylisolen sp.																														
Detonula pumila							1		1			1																		
Ditylum brightwellii				1	1	1						1																		
Eucampia zoodiacus				1	1	1			1																					
Grammatophora sp.																														
Hemiaulus sp.																														
Lauderia annulata																														
Leptocylindrus danicus				1	1							1				1		1												
Leptocylindrus minimus				1	1	1									1													1		
Licmophora sp.																														
Melosira sp.																														
Navicula sp.				1	1	1		1	1	1	1	2	1					1		1	1						1			
Nitzschioid sp.				2	2	1				2	2	2	1	1																
Pleurosigma/ Gyrosigma sp.												1																		
Pseudonitzschia sp.							1	1	1									1								1				
Rhizosolenia setigera				1	1	1	1	1	1	1	1	1					1													
Rhizosolenia sp. (pointy)																														
Rhizosolenia sp. (blunt)				1	1	1													1	1	1	1	1	2	2	1	1	2	2	2
Rhizosolenia stolterfothii																														
Skeletonema costatum						1	1	1	1	1	1	1	1			1						1	1	1						
Stephanopyxis sp.																														
Thalassionema sp.														1																
Thalassiosira sp.				2	1	2	2	2	1	1	3	2		1	1							1	1	1	1	1			1	1
misc. centric									1							1		1												
misc. pennate																								1			1			

Table 13 cont'd

date	07-Aug			14-Aug			21-Aug			28-Aug			04-Sep			11-Sep			18-Sep			25-Sep			02-Oct			09-Oct		
depth	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m
Diatoms																														
Achnanthes sp.																														
Amphiprora/ Tropidoneis																														
Asterionella japonica																														
Asteromphalus sp.																														
Asteromphalus heptactis																														
Bacteriastrum sp.																														
Biddulphia sp.																														
Cerautalina sp.				1																										
Chaetoceros concavicorne																														
Chaetoceros convolutus																														
Chaetoceros sp.													2	1	2	4	1	1	7	5	3	4	2	1	3	5	1	5	1	
Corethron hystrix																														
Coscinodiscus sp.				1	1		1	1	1	1	1	1	1	1	1	1	1		1	1									1	1
Cylindrotheca closterium																			1	1						1				
Dactylisolen sp.																														
Detonula pumila																														
Ditylum brightwellii					1								1	1	1	1	1	1	1	1	1	1	1	1		1	1	1		
Eucampia zoodiacus																										1				
Grammatophora sp.																														
Hemiaulus sp.																														
Lauderia annulata																														
Leptocylindrus danicus																														
Leptocylindrus minimus																														
Licmophora sp.																	1													
Melosira sp.																														
Navicula sp.						1			1									1	1		1	1		1		1	1	1		
Nitzschioid sp.																														
Pleurosigma/ Gyrosigma sp.	1																	1												
Pseudonitzschia sp.															1				1			1	1	1	1					
Rhizosolenia setigera	1	1											1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Rhizosolenia sp. (pointy)																														
Rhizosolenia sp. (blunt)	1			1																							1	1		
Rhizosolenia stolterfothii																														
Skeletonema costatum																			1	1		1	1	1	1			1		
Stephanopyxis sp.																														
Thalassionema sp.																														
Thalassiosira sp.	1		1								1	1		1	1	2	1	1	1	2	2	1	1	1		1	1			
misc. centric				1												1	1								1	1				
misc. pennate																				1										

Table 13 cont'd

date	17-Oct			23-Oct			30-Oct		
depth	1m	5m	10m	1m	5m	10m	1m	5m	10m
Diatoms									
Achnanthes sp.									
Amphiprora/ Tropidoneis									
Asterionella japonica									
Asteromphalus sp.									
Asteromphalus heptactis									
Bacteriastrum sp.									
Biddulphia sp.									
Cerautalina sp.									
Chaetoceros concavicorne		1							
Chaetoceros convolutus									1
Chaetoceros sp.			3						
Corethron hystrix									
Coscinodiscus sp.			1	1					
Cylindrotheca closterium		1							
Dactylisolen sp.									
Detonula pumila									
Ditylum brightwellii		1	1						
Eucampia zoodiacus									
Grammatophora sp.									
Hemiaulus sp.									
Lauderia annulata									
Leptocylindrus danicus									
Leptocylindrus minimus									
Licmophora sp.									
Melosira sp.									
Navicula sp.	1		1						
Nitzschioid sp.									
Pleurosigma/ Gyrosigma sp.									
Pseudonitzschia sp.							1	1	
Rhizosolenia setigera									
Rhizosolenia sp. (pointy)									
Rhizosolenia sp. (blunt)									
Rhizosolenia stolterfothii									
Skeletonema costatum							1		
Stephanopyxis sp.									
Thalassionema sp.			1						
Thalassiosira sp.									
misc. centric									
misc. pennate					1				

Table 14 : Dinoflagellates in Departure Bay samples.

date	06-Mar			20-Mar			27-Mar			03-Apr			10-Apr			17-Apr			24-Apr			01-May			08-May			15-May		
depth	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m
Dinoflagellates																														
Alexandrium sp.																									1	1		1		
Amphidinium sp.				1	1	1										1				1										
Ceratium divericatum																														
Ceratium furca																														
Ceratium fusus																														
Ceratium lineatum																														
Ceratium pentagonum																														
Ceratium sp.																														
Cochlodinium polykrikoides																														
Cochlodinium sp.																														
Dinophysioid sp.			1																											
Dinophysis acuta																										1		1		
Diplopsalis sp.																									1					
Gonyaulacoid sp.																														
Gymnodinioid sp.	2		2	2	1		3	1	1	2			3			1	4		2	1	1	2	2	3	6	10	3	5	5	3
Gymnodinium galatheanum																														
Gyrodinium spirale-type							2	2	2				2		1		1	1	2	1		1	1	1	2	2	3	1	1	
Heterocapsa triquetra																														
Noctiluca scintillans																										1				
Noctilucoid sp.																														
Oxyrrhis marina																														
Oxyphysis oxytoxoides																														
Polykrikos sp.																														
Prorocentrum gracile																														
Prorocentrum micans																														
Prorocentrum sp.																														
Protoceratium reticulatum																														
Protoperidinioid sp.	1						1			1		1				6	2	1	4						5	3	5	5	2	1
Pyrocystis lunula																														
Raphidophytes																														
Heterosigma akashiwo																														

Table 14 cont'd

date	22-May			29-May			05-Jun			12-Jun			26-Jun			03-Jul			10-Jul			17-Jul			24-Jul			01-Aug		
depth	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m
Dinoflagellates																														
Alexandrium sp.				1	1	1																								
Amphidinium sp.									1				1																	
Ceratium divericatum																														
Ceratium furca																														
Ceratium fusus													1	1	1	1		1	1			1					1	1		
Ceratium lineatum															1															
Ceratium pentagonum																														
Ceratium sp.																														
Cochlodinium polykrikoides																														
Cochlodinium sp.																														
Dinophysioid sp.					1	1					1		1	2	2	2	2		1					2				1	1	
Dinophysis acuta																														
Diplopsalis sp.																														
Gonyaulacoid sp.																														
Gymnodinioid sp.	3	1	2	7	7	7	5	3		5	4	3	5	7	7	3	3	2			2	5	7	5	6	5	3	3	4	1
Gymnodinium galatheanum																														
Gyrodinium spirale-type		1		1	2	1					1	1			1			1										1	1	
Heterocapsa triquetra					1						1		1																	
Noctiluca scintillans																														
Noctilucoid sp.																														
Oxyrrhis marina																														
Oxyphysis oxytoxoides																														
Polykrikos sp.						1																								
Prorocentrum gracile																														
Prorocentrum micans																														
Prorocentrum sp.																														
Protoceratium reticulatum								1								1														
Protoperidinioid sp.	2	2		7	6	7	1	1	3	4	6	4	2	4	4	1						4	1		3	1		1	3	3
Pyrocystis lunula																														
Raphidophytes																														
Heterosigma akashiwo													1	1	1		1			1		1	1	1	1	1	1	1	1	

Table 14 cont'd

date	07-Aug			14-Aug			21-Aug			28-Aug			04-Sep			11-Sep			18-Sep			25-Sep			02-Oct			09-Oct		
depth	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m
Dinoflagellates																														
Alexandrium sp.																														
Amphidinium sp.																														
Ceratium divericatum																														
Ceratium furca																														
Ceratium fusus																														
Ceratium lineatum																														
Ceratium pentagonum																														
Ceratium sp.																														
Cochlodinium polykrikoides																														
Cochlodinium sp.																														
Dinophysioid sp.																														
Dinophysis acuta																														
Diplopsalis sp.																														
Gonyaulacoid sp.				1																										
Gymnodinioid sp.	2	3	3	1	2	2		1	2	4	1	3	5	6	6	3		3	3	3		7	6	4	5	6	2	3	2	3
Gymnodinium galatheanum																														
Gyrodinium spirale-type	1	2																	1						1					
Heterocapsa triquetra																														
Noctiluca scintillans																														
Noctilucoid sp.																														
Oxyrrhis marina																														
Oxyphysis oxytoxoides																														
Polykrikos sp.																														
Prorocentrum gracile																						1								
Prorocentrum micans																														
Prorocentrum sp.																														
Protoceratium reticulatum																														
Protoperidinioid sp.	1		1			1						1	1			2	1					3	1	1	2	1				
Pyrocystis lunula																														
Raphidophytes																														
Heterosigma akashiwo	1																													

Table 14 cont'd

date	17-Oct			23-Oct			30-Oct		
depth	1m	5m	10m	1m	5m	10m	1m	5m	10m
Dinoflagellates									
Alexandrium sp.									
Amphidinium sp.									
Ceratium divericatum									
Ceratium furca									
Ceratium fusus									
Ceratium lineatum									
Ceratium pentagonum									
Ceratium sp.									
Cochlodinium polykrikoides									
Cochlodinium sp.									
Dinophysioid sp.									
Dinophysis acuta									
Diplopsalis sp.									
Gonyaulacoid sp.									
Gymnodinioid sp.	2	3	1		3		5	4	4
Gymnodinium galatheanum									
Gyrodinium spirale-type									
Heterocapsa triquetra									
Noctiluca scintillans									
Noctilucoid sp.									
Oxyrrhis marina									
Oxyphysis oxytoxoides									
Polykrikos sp.									
Prorocentrum gracile									
Prorocentrum micans									
Prorocentrum sp.	1								
Protoceratium reticulatum									
Protoperidinioid sp.									
Pyrocystis lunula									
Raphidophytes									
Heterosigma akashiwo									

Table 15 : Other flagellates, microzooplankton, dominant species, percent constituent, and total biomass in Departure Bay samples.

date	06-Mar			20-Mar			27-Mar			03-Apr			10-Apr			17-Apr			24-Apr			01-May			08-May			15-May		
depth	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m
Other Flagellates																														
Cryptomonads																														
Dictyocha fibula / naked																														
Dictyocha speculum			1							1			1																	1
Dinobryon balticum																														
Ebria tripartita					1																									
Euglenoid																														
Phaeocystis pouchetii																														
unid. Nanoflagellates	3	2	1	4	3	1	3	2	1	3	3	2	3	2	2	3	2	2	3	2	2	3	3	1	3	4	3	2	3	2
Zooplankton																														
Amoeba																														
Appendicularian																														
Barnacle nauplius																														
Ciliate	4	3	2	2	1		6	6	4	7	1	2	4	2	1	3	3	1	3	1	2	6	5	2	8	9	8	10	9	6
Copepod																														
Nauplius																														
Pluteus																														
Rotifer		1					1													1					1					
Tintinnid									1			2								2										
Zoea																														
other																														
Dominant Species/Group																														
name	*Chaetoceros spp.*	*Detonula pumila*	*Thalassiosira spp.*	*Skeletonema costatum*	*Thalassiosira spp.*	*Thalassiosira spp.*	*Thalassiosira spp.*	*Thalassiosira spp.*	*Thalassiosira spp.*	*Skeletonema costatum*	*Skeletonema costatum*	*Skeletonema costatum*	*Skeletonema costatum*	*Skeletonema costatum*	*Thalassiosira spp.*	*Skeletonema costatum*	*Skeletonema costatum*	*Skeletonema costatum*	*Skeletonema costatum*	*Skeletonema costatum*	*Skeletonema costatum*	*Chaetoceros spp.*	*Chaetoceros spp.*	*Chaetoceros spp.*	dinoflagellates	ciliates	ciliates	ciliates	ciliates	ciliates
count (cells/mL)	~300	~10	~60	1400	~120	~40	~100	~160	~170	3000	2200	2400	~700	~600	~180	5200	1600	1700	1500	1400	~800	~100	~50	~450	~140	~140	~70	~120	~70	~45
% constituent	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Diatoms	45	75	80	90	95	90	85	85	90	90	95	90	85	95	95	95	95	93	90	90	90	35	45	80	2	0	0	5	0	0
Dinoflagellates	23	0	5	5	2	5	5	5	4	2	0	1	5	0	1	3	2	4	4	4	4	15	10	4	60	43	45	40	18	40
Raphidophytes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Flagellates	2	5	5	2	1	5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	15	10	1	3	2	5	5	2	5
Zooplankton	30	20	10	3	2	0	9	9	5	7	4	8	9	4	3	1	2	2	5	5	5	35	35	15	35	55	50	50	80	55
Biomass	2.0	1.5	1.5	3.5	2.5	1.5	3.0	3.0	3.0	3.0	2.5	3.0	3.0	3.0	2.5	4.0	3.5	3.5	3.5	3.0	2.5	2.5	2.0	2.5	2.5	2.5	2.0	2.5	2.0	1.5

Table 15 cont'd

date	22-May			29-May			05-Jun			12-Jun			26-Jun			03-Jul			10-Jul			17-Jul			24-Jul			01-Aug		
depth	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m
Other Flagellates																														
Cryptomonads																														
Dictyocha fibula / naked										1							1	1	1	1	1	1	1	1	1	1	1	1	1	1
Dictyocha speculum					1																			1		1				
Dinobryon balticum																														
Ebria tripartita																														
Euglenoid	1					1																1	1							
Phaeocystis pouchetii				1	1																									
unid. Nanoflagellates	3	1	1	3	4	2	5	3	2	3	2	3	4	4	2	3	2	3	4	3	3	6	5	4	3	2	2	2	2	3
Zooplankton																														
Amoeba																														
Appendicularian																														
Barnacle nauplius																														
Ciliate	5	5	6	7	4	7		2	2	3	5	6	9	9	7	6	8	5	6	4	2	8	12	9	4	3	1	10	5	3
Copepod																														
Nauplius																1	1		1						1					
Pluteus																														
Rotifer							1	1		1	1																			
Tintinnid				2	1	2		1		1	1	2							1	1										
Zoea																														
other																												1		
Dominant Species/Group																														
name	dinoflagellates	ciliates	ciliates	*Chaetoceros spp.*	*Chaetoceros spp.*	*Chaetoceros spp.*	*Rhizosolenia setigera*	*Chaetoceros spp.*	*Rhizosolenia setigera*	*Rhizosolenia setigera*	*Pseudonitzschia spp.*	*Asterionella japonica*	ciliates	ciliates	*Ceratium fusus*	ciliates	ciliates	ciliates	*Dictyocha speculum*	*Dictyocha speculum*	*Dictyocha speculum*	*Heterosigma akashiwo*	*Dictyocha speculum*	*Dictyocha speculum*	*Dictyocha speculum*	*Dictyocha speculum*	*Dictyocha speculum*	*Dictyocha speculum*	*Dictyocha speculum*	*Dictyocha speculum*
count (cells/mL)	~40	~10	~10	1500	1200	2500	~220	~1200	~170	~90	~1000	~1600	~50	~50	~6	~550	~50	~30	~90	~70	~10	~230	~85	~120	~125	~125	~100	~175	~350	~100
% constituent	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Diatoms	5	0	13	80	80	80	90	93	94	40	85	90	3	4	5	4	1	20	30	20	30	20	20	15	8	8	5	10	10	15
Dinoflagellates	60	40	20	12	14	15	7	4	4	17	9	5	35	35	70	7	8	20	10	0	20	20	10	10	5	5	4	10	15	20
Raphidophytes	0	0	0	0	0	0	0	0	0	0	0	0	5	3	5	0	1	0	0	0	0	20	10	10	2	2	1	0	0	0
Other Flagellates	5	5	2	1	2	1	1	1	1	3	1	1	2	3	2	1	5	15	40	55	35	10	35	50	80	80	80	60	65	60
Zooplankton	30	55	65	7	4	4	2	2	1	40	5	4	55	55	18	88	85	45	20	25	15	30	25	15	5	5	10	20	10	5
Biomass	2.0	1.5	1.5	4.0	3.5	3.5	3.0	3.0	3.0	2.0	3.0	3.0	2.0	2.0	2.0	4.0	2.5	2.0	2.5	2.5	2.0	3.5	3.5	3.0	3.0	3.0	2.5	3.0	3.5	2.5

Table 15 cont'd

date	07-Aug			14-Aug			21-Aug			28-Aug			04-Sep			11-Sep			18-Sep			25-Sep			02-Oct			09-Oct		
depth	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m
Other Flagellates																														
Cryptomonads																														
Dictyocha fibula / naked	1	1	1	1	1	1																								
Dictyocha speculum																														
Dinobryon balticum																1				1						1		1		
Ebria tripartita																														
Euglenoid																														
Phaeocystis pouchetii																													1	
unid. Nanoflagellates	3	3	3	3	3	2	2	2	2	3	3	4	2	2	3	3	2	1	3	3	1	3	3	3	2	2	2	2	1	1
Zooplankton																														
Amoeba																														
Appendicularian				1									1																	
Barnacle nauplius																														
Ciliate	4	4	2	6	5		5	3	2	7	8	8	6	4	5		1	1	4	3	2	5	4	4	4	6	2	1		1
Copepod																														
Nauplius		1		1																		1				1				
Pluteus																														
Rotifer																														
Tintinnid																				1		2	2							
Zoea																														
other																						1								
Dominant Species/Group																														
name	*Dictyocha speculum*	*Dictyocha speculum*	*Dictyocha speculum*	*Dictyocha speculum*	*Dictyocha speculum*	*Dictyocha speculum*	*Coscinodiscus sp.*	*Coscinodiscus sp.*	*Coscinodiscus sp.*	ciliates	ciliates	ciliates	*Ditylum brightwellii*	*Ditylum brightwellii*	*Ditylum brightwellii*	*Chaetoceros curvisetus*	*Chaetoceros curvisetus*	*Chaetoceros curvisetus*	*Rhizosolenia setigera*	*Rhizosolenia setigera*	*Rhizosolenia setigera*	*Rhizosolenia setigera*	*Rhizosolenia setigera*	*Rhizosolenia setigera*	*Rhizosolenia setigera*	*Rhizosolenia setigera*	*Rhizosolenia setigera*	*Rhizosolenia setigera*	*Rhizosolenia setigera*	*Rhizosolenia setigera*
count (cells/mL)	~100	~50	~10	~50	~50	~14	~2	~1	~1	~80	~80	~60	~63	~12	~18	4500	~700	~520	~420	~70	~30	~450	~160	~260	~55	~85	~35	~50	~5	~2
% constituent	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Diatoms	3	1	1	10	5	5	30	30	30	10	10	20	85	65	80	95	97	96	85	70	90	70	80	90	80	90	90	90	94	55
Dinoflagellates	10	14	30	10	20	25	0	5	25	20	5	10	5	20	10	4	1	2	10	10	0	20	10	5	5	4	4	6	5	20
Raphidophytes	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Flagellates	80	75	60	70	65	70	5	5	5	10	5	5	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	5
Zooplankton	5	10	9	10	10	0	65	60	40	60	80	65	9	14	9	0	1	1	4	18	9	9	9	4	14	5	5	3	0	20
Biomass	2.5	2.5	2.0	2.5	2.5	2.0	1.5	1.0	1.0	2.0	2.0	2.0	3.0	2.0	2.0	4.0	3.0	2.5	4.0	2.5	2.5	3.5	3.0	3.0	3.0	3.0	2.0	2.5	1.5	1.0

Table 15 cont'd

date	17-Oct			23-Oct			30-Oct		
depth	1m	5m	10m	1m	5m	10m	1m	5m	10m
Other Flagellates									
Cryptomonads									
Dictyocha fibula / naked									
Dictyocha speculum			1						
Dinobryon balticum									
Ebria tripart.									
Euglenoid									
Phaeocystis pouchetii									
unid. Nanoflagellates	4	2	1	3	3	2	2	3	2
Zooplankton									
Amoeba									
Appendicularian									
Barnacle nauplius									
Ciliate	6	1	1	3	1	3	7	6	5
Copepod									
Nauplius									
Pluteus									
Rotifer									
Tintinnid									
Zoea									
other									
Dominant Species/Group									
name	ciliates	*Chaetoceros concavicorne*	*Chaetoceros spp.*	ciliates	dinoflagellates	ciliates	ciliates	ciliates	ciliates
count (cells/mL)	~10	~5	~15	~10	~5	~5	~50	~20	~15
% constituent	100	100	100	100	100	100	100	100	100
Diatoms	5	70	85	10	5	0	5	10	5
Dinoflagellates	20	10	5	0	45	0	25	10	20
Raphidophytes	0	0	0	0	0	0	0	0	0
Other Flagellates	10	5	5	40	30	30	10	30	20
Zooplankton	65	15	5	50	20	70	60	50	55
Biomass	1.5	1.5	1.5	1.0	1.0	1.0	2.0	1.5	1.5

Table 16 : Diatoms in Pretty Girl Cove samples.

date	04-Jun			16-Jun			23-Jun			30-Jun			16-Jul			17-Aug			29-Aug			12-Sep			19-Sep			26-Sep			03-Oct		
depth	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m
Diatoms																																	
Achnanthes sp.																																	
Amphiprora/ Tropidoneis																																	
Asterionella japonica		1										1																					
Asteromphalus heptactis							1				1																						
Bacteriastrum sp.		1								1	1	1																					
Biddulphia sp.																																	
Cerautalina sp.		1					1			1	1											1	1										
Chaetoceros concavicorne																																	
Chaetoceros convolutus																																	
Chaetoceros sp.	3	9	5	1			1			8	5	4			1							1	1	1							1		
Corethron hystrix		1	1																														
Coscinodiscus sp.					1																	1											
Cylindrotheca closterium		1							1										1		1												
Dactylisolen sp.				1				1		1	1																						
Detonula pumila																																	
Ditylum brightwellii	1									1	1	1							1		1	1											
Eucampia zoodiacus						1		1	1		1	1	1	1	1																		
Grammatophora sp.																																	
Hemiaulus sp.																																	
Lauderia annulata	1	1	1								1											1	1										
Leptocylindrus danicus			1				1			1	1																						
Leptocylindrus minimus																																	
Licmophora sp.																																	
Melosira sp.																			1														
Navicula sp.		2					1				1						1														1		
Nitzschioid sp.	1	1	1						1		1	1																					
Pleurosigma/ Gyrosigma sp.																																	
Pseudonitzschia sp.																							1										1
Rhizosolenia setigera	1	1		1							1																						
Rhizosolenia sp. (pointy)		1	1							1	1																						
Rhizosolenia sp. (blunt)																							1										
Rhizosolenia stolterfothii																						1		1									
Skeletonema costatum	1	1	1							1	1	1						1					1										1
Stephanopyxis sp.			1																														
Thalassionema sp.												1											1										
Thalassiosira sp.		1	2								1	1	1				1				1	2	2	2						1			1
misc. centric																																	
misc. pennate																							1	1									

Table 17 : Dinoflagellates in Pretty Girl Cove samples.

date	04-Jun			16-Jun			23-Jun			30-Jun			16-Jul			17-Aug			29-Aug			12-Sep			19-Sep			26-Sep			03-Oct		
depth	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m
Dinoflagellates																																	
Alexandrium sp.													1			1			1	1	1							1					
Amphidinium sp.												1																					
Ceratium divericatum							1			1		1	1		1	1	1		1	1	1	1	1									1	1
Ceratium furca							1					1	1			1	1		1	1	1					1							
Ceratium fusus												1					1				1		1			1							
Ceratium lineatum					1			1				1	1												1			1				1	1
Ceratium minutum																1	1						1										
Ceratium pentagonum																																	
Ceratium sp.																																	
Cochlodinium polykrikoides																			1													1	1
Cochlodinium sp.																																	
Dinophysioid sp.					1			1					1			1	2	1	1			1	1	1	1			1	1		2	1	
Diplopsalis sp.																			1	1	1	1	1								1	1	1
Gonyaulacoid sp.																				1													
Gymnodinioid sp.	1	3	2	5	5	8	5	7	7	6	8	3	6	5	2	6	4	5	4	5	4	7	8	8	8	11		13	7	4	7	8	7
Gymnodinium galatheanum																																	
Gymnodinium sanguineum																																	
Gyrodinium spirale-type					1	1		1			1	1			1				1	1	1	2	2	1		2		2			2	2	2
Heterocapsa triquetra	1						1				1	1	1	1								1	1								1	1	
Noctiluca scintillans																	1			1													
Noctilucoid sp.																																	
Oxyrrhis marina																																	
Oxyphysis oxytoxoides																1	1		1	1		1											
Polykrikos sp.																																	
Prorocentrum gracile							1			1		1	1		1				1	1	1	1	1	1	1	1		1	1		1	1	1
Prorocentrum micans		1					1	1		1	1	1	1			1			1	1	1	1	1	1	1	1		1	1	1		1	
Prorocentrum minimum						1																											
Prorocentrum sp.																										1							
Protoceratium reticulatum																			1	1	1												
Protoperidinioid sp.	2	4		3	5	1	3	3	3	6	7	3	11	4	3	5	6	3	10	4	7	5	7	5	4	7		5	2	1	5	5	3
Pyrocystis lunula																																	
Scrippsiella trochoidea																									1								
Raphidophytes																																	
Heterosigma akashiwo													1	1	1	1	1		1	1	1	1	1	1	1	1		1	1	1			

Table 18 : Other flagellates, microzooplankton, dominant species, percent constituent, and total biomass in Pretty Girl Cove samples.

date	04-Jun			16-Jun			23-Jun			30-Jun			16-Jul			17-Aug			29-Aug			12-Sep			19-Sep			26-Sep			03-Oct		
depth	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m
Other Flagellates																																	
Cryptomonads																																	
Dictyocha fibula / naked																1	1		1	1	1												
Dictyocha speculum					1						1	1	1				1			1						1				1			1
Dinobryon balticum																																	
Ebria tripartita				1																													
Euglenoid							1					1							1	1		1	1								2	1	1
Phaeocystis pouchetii																																	
unid. Nanoflagellates	3	6	3	6	4	3	6	3	4	3	3	3	3	2	1	6	5	3	5	4	2	5	6	5	4	4		4	3	3	5	2	3
Zooplankton																																	
Amoeba																																1	
Appendicularian	1					1																											
Ciliate	4	5	4	5	8	8	4	2	3	7	10	3	8	6	5	3	4	2	4	6	2	9	6	7	6	3		6	1	2	9	8	5
Copepod																																	
Nauplius									1																								
Pluteus																																	
Radiolarian																																	1
Rotifer													2						1														
Tintinnid	1									1	1		2	1		1				1	1					2							
Zoea																																	
other																			2														
Dominant Species/Group																																	
name	*Skeletonema costatum*	*Skeletonema costatum*	*Skeletonema costatum*	ciliates	ciliates	ciliates	*Ceratium divaricatum*	*Eucampia zoodiacus*	dinoflagellates	*Chaetoceros spp.*	*Chaetoceros spp.*	*Eucampia zoodiacus*	*Ceratium divaricatum*	*Eucampia zoodiacus*	*Eucampia zoodiacus*	*Ceratium furca*	*Ceratium spp.*	dinoflagellates	*Ceratium divaricatum*	*Ceratium divaricatum*	*Ceratium divaricatum*	*Prorocentrum gracile*	*Prorocentrum micans*	*Thalassiosira spp.*	*Heterosigma akashiwo*	dinoflagellates	no sample	*Prorocentrum gracile*	*Prorocentrum micans*	*Prorocentrum micans*	euglenoid spp.	*Diplopsalis sp.*	*Diplopsalis sp.*
count (cells/mL)	~1200	3400	2000	~150	~50	~40	~6	~70	~20	~900	~860	5900	~40	~30	~50	~15	~50	~20	~200	~160	~20	~400	~100	~150	2600	~250		~150	~20	~5	2400	~140	~20
% constituent	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Diatoms	75	75	85	10	5	1	10	50	20	60	55	85	5	36	60	0	5	5	2	0	3	6	35	60	0	0	33	0	0	5	1	0	10
Dinoflagellates	5	10	5	20	40	40	70	40	40	20	20	9	80	30	15	90	85	80	90	90	85	80	50	20	10	65	45	80	90	70	45	65	60
Raphidophytes	0	0	0	0	0	0	0	0	0	0	0	0	3	2	1	1	0	0	2	1	4	1	1	8	75	5	8	5	3	8	0	0	0
Other Flagellates	10	5	2	10	10	15	5	5	5	3	5	3	1	2	1	5	8	5	1	2	4	3	2	2	10	5	2	10	3	2	30	20	10
Zooplankton	10	10	8	60	45	44	15	5	35	17	20	3	11	30	23	4	2	10	5	7	4	10	12	10	5	25	13	5	4	15	24	15	20
Biomass	3.0	3.0	3.0	2.0	2.0	2.0	2.0	2.0	1.5	3.0	3.0	4.0	3.5	2.0	2.0	3.0	3.0	1.5	4.5	4.0	3.0	4.0	3.5	3.0	4.0	2.0	2.5	3.0	2.5	2.0	4.0	4.0	2.5

Table 19 : Diatoms in Bacchante Bay samples.

date	04-Jun			16-Jun			23-Jun			30-Jun			16-Jul			17-Aug			29-Aug			12-Sep			19-Sep			26-Sep			03-Oct		
depth	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m
Diatoms																																	
Achnanthes sp.																																	
Amphiprora/ Tropidoneis															1																		
Asterionella japonica	1	1	1	1	1	1	1		1		1	1																					
Asteromphalus heptactis																																	
Bacteriastrum sp.	1	1	1	1	1	1	1	1	1	1	1																						
Biddulphia sp.																																	
Cerautalina sp.				1	1			1		1		1			1								1	1									
Chaetoceros concavicorne																																	
Chaetoceros convolutus		1	1		1	1		1	1	1	1	1																					
Chaetoceros sp.	6	8	10	8	9	10	10	10	10	8	13	10		1	2			1	1	1			1										
Corethron hystrix	1	1	1																														
Coscinodiscus sp.												1														1							
Cylindrotheca closterium		1				1		1	1		1	1									1												
Dactylisolen sp.	1			1	1	1	1	1	1	1	1	1																					
Detonula pumila																																	
Ditylum brightwellii	1	1	1	1	1	1		1	1	1	1	1		1								1									1		
Eucampia zoodiacus								1	1		1	1	1	1	1																		
Grammatophora sp.																																	
Hemiaulus sp.																																	
Lauderia annulata		1	1			1					1	1																					
Leptocylindrus danicus		1					1			1	1	1		1	1																		
Leptocylindrus minimus								1	1											1											1		1
Licmophora sp.																																	
Melosira sp.																					1												
Navicula sp.		1			1			1	1		1	1																					
Nitzschioid sp.	1	2	1	1	3	1	2	3	2	1	1	1		1	1																		
Pleurosigma/ Gyrosigma sp.						1			1																								
Pseudonitzschia sp.																						1	1	1							1		
Rhizosolenia setigera	1	1	1	1	1	1	1	1		1	1	1									1												
Rhizosolenia sp. (pointy)								1	1			1																					
Rhizosolenia sp. (blunt)								1	1		1											1											
Rhizosolenia stolterfothii															1	1	1		1			1	1	1					1				
Skeletonema costatum	1	1	1	1	1	1	1	1	1	1	1	1										1	1	1							1		1
Stephanopyxis sp.												1									1												
Thalassionema sp.										1	1	1																					
Thalassiosira sp.		1	2	1	1	2	1	2	3	1	2	2			1	1	1		1			1	2	2									
misc. centric																																	
misc. pennate																	1																

Table 20 : Dinoflagellates in Bacchante Bay samples.

date	04-Jun			16-Jun			23-Jun			30-Jun			16-Jul			17-Aug			29-Aug			12-Sep			19-Sep			26-Sep			03-Oct		
depth	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m
Dinoflagellates																																	
Alexandrium sp.																1	1	1	1	1	1												
Amphidinium sp.			1																														
Ceratium divaricatum																						1						1					
Ceratium furca																		1	1			1	1					1					
Ceratium fusus																	1	1				1			1			1	1			1	
Ceratium lineatum					1									1																			
Ceratium minutum																																	
Ceratium pentagonum																																	
Ceratium sp.																																	
Cochlodinium polykrikoides																						1		1					1			1	
Cochlodinium sp.																																	
Dinophysioid sp.												1	2		1		1	1		1			1		2				1		1		
Diplopsalis sp.																	1					1											
Gonyaulacoid sp.								1								1	1														1		
Gymnodinioid sp.	3	4	2	6	2	3	6	4	2	6	7	3	7	6	8	8	8	6	5	4	2	5	3	10	11	7		9	11		6	2	5
Gymnodinium galatheanum																																	
Gyrodinium spirale-type			1	1	2	1	1	1	2	1	1	1	2		1	1			1			2			1	1		2	1		1	1	1
Heterocapsa triquetra							1			1	1		1	1	1							1	1					1	1		1	1	1
Noctiluca scintillans										1									1						1								
Noctilucoid sp.																																	
Oxyrrhis marina																																	
Oxyphysis oxytoxoides													1			1	1		1		1				1	1							
Polykrikos sp.																																	
Prorocentrum gracile										1			1	1		1	1	1		1	1	1		1	1	1		1	1		1	1	1
Prorocentrum micans						1	1			1	1	1	1	1		1	1	1	1	1	1	1	1		1	1		1	1				
Prorocentrum minimum			1																														
Prorocentrum sp.																									1								
Protoceratium reticulatum																			1	1	1												
Protoperidinioid sp.	2	2		2	4	4	1	4	2	6	5	2	8	5	5	6	5	8	5	2	3	2	1		7	6		2	6		2	2	2
Pyrocystis lunula																																	
Raphidophytes																																	
Heterosigma akashiwo												1	1		1	1	1	1	1	1	1	1	1	1	1	1			1		1		

Table 21 : Other flagellates, microzooplankton, dominant species, percent constituent, and total biomass in Bacchante samples.

date	04-Jun			16-Jun			23-Jun			30-Jun			16-Jul			17-Aug			29-Aug			12-Sep			19-Sep			26-Sep			03-Oct		
depth	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m
Other Flagellates																																	
Cryptomonads																																	
Dictyocha fibula / naked														1					1	1	1												
Dictyocha speculum	1	1		1	1		1	1			1	1			1	1	1	1		1													
Dinobryon balticum																																	
Ebria tripartita						1										1	1	1															
Euglenoid	1	1					1						1			1	1					1	1	1	1			1	1		1		
Phaeocystis pouchetii				1																													
unid. Nanoflagellates	5	4	4	3	3	2	3	5	4	3	2	3	4	3	2	4	4	5	4	3	4	5	3	4	5	3		6	5		5	2	4
Zooplankton																																	
Amoeba																																	
Appendicularian	1																																
Ciliate	2	3	3	3	4	2	4	6	2	9	7	2	9	3	5	3	3	3	3	6	3	8	7	6	3	3		8	8		10	6	7
Copepod																																	
Nauplius																															1		
Pluteus																																	
Radiolarians																																	
Rotifer					1								1					1															
Tintinnid	1		1		1					1							1	1										1					
Zoea																																	
other																																	
Dominant Species/Group																																	
name	*Rhizosolenia setigera*	*Skeletonema costatum*	*Skeletonema costatum*	*Skeletonema costatum*	*Skeletonema costatum*	*Skeletonema costatum*	*Dactyliosolen antarcticus*	*Chaetoceros spp.*	*Chaetoceros spp.*	*Chaetoceros spp.*	*Chaetoceros spp.*	*Chaetoceros spp.*	*Heterocapsa triquetra*	*Eucampia zoodiacus*	*Eucampia zoodiacus*	*Prorocentrum micans*	*Prorocentrum micans*	*Prorocentrum micans*	*Prorocentrum micans*	*Prorocentrum micans*	*Prorocentrum micans*	*Thalassiosira aestivalis*	*Thalassiosira spp.*	*Thalassiosira spp.*	*Prorocentrum micans*	*Gyrodinium spirale*	no sample	*Prorocentrum gracile*	*Prorocentrum gracile*	no sample	*Skeletonema costatum*	*Heterocapsa triquetra*	*Skeletonema costatum*
count (cells/mL)	~300	4600	10000	3800	2100	2700	~600	1100	~900	~1000	4700	3300	~340	~20	~45	~450	~270	~300	~600	~140	~80	~150	~110	~80	~90	~16		~110	~40		500	~10	~90
% constituent	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Diatoms	90	90	90	85	90	90	70	80	70	65	80	93	10	40	40	2	5	2	5	2	10	45	55	70	0	1	54	0	2	37	30	0	20
Dinoflagellates	5	5	5	10	6	7	20	12	20	20	10	4	60	40	45	85	85	85	70	65	60	30	25	15	90	80	25	70	75	35	30	55	45
Raphidophytes	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	1	1	0	20	20	25	1	0	0	1	2	0	0	0	0	0	0	0
Other Flagellates	2	2	2	3	1	1	2	3	5	1	1	1	2	5	2	7	5	8	3	5	2	2	5	5	4	2	5	10	5	5	5	5	5
Zooplankton	3	3	3	2	3	2	8	5	5	14	9	2	25	15	13	5	4	5	2	8	3	22	15	10	5	15	16	20	18	23	35	40	30
Biomass	3.5	3.5	4.0	3.5	3.0	3.0	3.0	3.0	2.5	3.0	4.0	4.0	3.5	1.5	2.0	3.5	3.0	3.0	4.0	2.5	2.0	3.0	3.0	2.5	4.0	2.0	2.1	3.5	3.0	1.8	2.5	1.5	1.5

Table 22 : Diatoms in Bedwell Sound samples.

date	9-Jun			16-Jun			23-Jun			30-Jun			10-Jul			23-Jul			15-Aug			30-Aug			14-Sep			22-Sep			26-Sep			3-Oct		
depth	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m
Diatoms																																				
Achnanthes sp.																																				
Amphiprora/ Tropidoneis																																				
Asterionella japonica	1		1			1		1		1	1	1	1	1	1	1	1																			
Bacteriastrum sp.								1		1	1																									
Biddulphia sp.																																				
Campylosira/Plagiogramma																																				
Cerautalina sp.														1					1	1	1															
Chaetoceros concavicorne																																				
Chaetoceros convolutus		1											1	1	1																					
Chaetoceros sp.	2	4	4	2	2	2	10	9	6	7	6	5		6	2				1	2							3	2		1				1	1	1
Corethron hystrix																																				
Coscinodiscus sp.			1																						1		1						1			
Cylindrotheca closterium		1							1	1		1													1											
Dactylisolen sp.								1																												
Detonula pumila																																				
Ditylum brightwellii	1	1				1								1	1				1	1		1	1		1	1	1		1	1	1	1	1	1	1	1
Eucampia zoodiacus													1	1	1	1	1	1			1		1					1			1				1	1
Grammatophora sp.																																				
Hemiaulus sp.																																				
Lauderia annulata		1	1									1	1	1	1																					
Leptocylindrus danicus		1	1														1		1			1	1				1									
Leptocylindrus minimus													1						1	1	1	1	1		1	1	1		1	1						
Licmophora sp.										1																										
Melosira sp.																																				
Navicula sp.			1					1		2	2	2		1	1			1			1						1									
Nitzschioid sp.	1	1	1				1			1				1																						
Pleurosigma/ Gyrosigma sp.		1												1																				1	1	
Pseudonitzschia sp.																			1	1		1					1		1				1			
Rhizosolenia setigera	1	1																																		
Rhizosolenia sp. (pointy)					1	1			1				1	1	1																					
Rhizosolenia sp. (blunt)																							1									1				
Rhizosolenia stolterfothii											1		1	1	1	1	1	1														1			1	1
Skeletonema costatum	1	1	1	1						1	1					1						1														1
Stephanopyxis sp.														1																						
Thalassionema sp.	1					1							1	1	1				1		1								1						1	1
Thalassiosira sp.		1	1		1			1			1	1		1	1						1	1							1							1
misc centric																					1															
misc pennate																													1							

Table 23 : Dinoflagellates in Bedwell Sound samples.

date	9-Jun			16-Jun			23-Jun			30-Jun			10-Jul			23-Jul			15-Aug			30-Aug			14-Sep			22-Sep			26-Sep			3-Oct		
depth	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m
Dinoflagellates																																				
Alexandrium sp.															1																			1		
Amphidinium sp.																																				
Ceratium divaricatum																			1		1					1					1	1		1	1	1
Ceratium furca																			1						1	1		1	1	1		1	1	1	1	1
Ceratium fusus																		1																		
Ceratium lineatum		1		1	1			1	1								1	1		1	1						1	1	1	1	1	1	1	1	1	1
Ceratium minutum																			1																	
Ceratium pentagonum																																				
Ceratium sp.													1																							
Cochlodinium polykrikoides																									1	1	1	1	1	1	1	1	1	1	1	1
Cochlodinium sp.																																				
Dinophysioid sp.		1	1	1			1	1						1				1	1						1	2	1	2		1	1	2	1	1		
Diplopsalis sp.																																		1		1
Gonyaulacoid sp.								1	1					1																	1	1	1	1	1	1
Gymnodinioid sp.	5	7	1	5	8	8	6	8	9	5	9	7	5	7	7	10	10	7	5	4	2	2	3		8	6		10	8	11	7	7	4	6	6	4
Gymnodinium galatheanum																																				
Gymnodinium sanguineum																												1		1	1	1	1	1	1	1
Gyrodinium spirale-type		1		1	1	1		2	1	1	1	1	1	2	1			1			1							1	2	2	1			1	1	1
Heterocapsa triquetra	1									1			1			1	1	1	1		1		1		1	1	1	1		1	1	1	1	1	1	1
Noctiluca scintillans							1																													
Noctilucoid sp.																																				
Oxyrrhis marina																																				
Oxyphysis oxytoxoides																									1			1		1						
Polykrikos sp.														1											1											
Prorocentrum gracile																1			1	1	1	1	1		1	1	1	1	1	1	1	1	1	1	1	1
Prorocentrum micans	1			1			1				1	1				1			1						1	1	1	1	1	1	1	1		1	1	1
Prorocentrum sp.																		1																		
Protoperidinioid sp.	3	4	2	5	4	2	4	7	5	2	6	3	6	10	4	7	6	3	6	1	2	1	2		5	4		9	6	12	4	5	5	5	3	5
Pyrocystis lunula																																				
Scrippsiella trochoidea																1	1																			
Raphidophytes																																				
Heterosigma akashiwo		1		1	1	1		1	1	1	1				1	1	1	1	1			1						1	1	1	1					

Table 24 : Other flagellates, microzooplankton, dominant species, percent constituent, and total biomass in Bedwell Sound samples.

date	9-Jun			16-Jun			23-Jun			30-Jun		
depth	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m
Other Flagellates												
Cryptomonads												
Dictyocha fibula / naked												
Dictyocha speculum												
Dinobryon balticum												
Ebria tripartita												
Euglenoid	1						1	1	1			1
Phaeocystis pouchetii												
unid. Nanoflagellates	4	5	5	2	5	4	2	5	4	3	2	3
Zooplankton												
Amoeba												
Appendicularian				1								
Ciliate	3	4	1	5	3	2	5	9	6	1	6	2
Copepod												
Nauplius	1							1				
Pluteus												
Radiolarians												
Rotifer												
Tintinnid												
Zoea												
other												
Dominant Species/Group												
name	*Skeletonema costatum*	*Skeletonema costatum*	*Skeletonema costatum*	dinoflagellates	dinoflagellates	dinoflagellates	euglenoid sp.	*Chaetoceros spp.*	dinoflagellates	*Chaetoceros spp.*	dinoflagellates	*Chaetoceros spp.*
count (cells/mL)	2400	~1200	~1600	~80	~60	~80	~300	~300	~680	~900	~700	~320
% constituent	100	100	100	100	100	100	100	100	100	100	100	100
Diatoms	65	65	80	5	9	30	30	25	15	70	35	40
Dinoflagellates	15	15	10	45	45	45	25	40	65	25	48	30
Raphidophytes	0	0	0	14	1	1	0	1	1	0	2	0
Other Flagellates	5	10	5	1	20	19	35	14	9	3	5	25
Zooplankton	15	10	5	35	25	5	10	20	10	2	10	5
Biomass	3	2.5	2.5	1.5	2.0	2.0	3.0	2.5	2.5	2.5	3.0	2.0

date	10-Jul			23-Jul			15-Aug			30-Aug		
depth	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m
Other Flagellates												
Cryptomonads												
Dictyocha fibula / naked							1					
Dictyocha speculum		1						1			1	
Dinobryon balticum												
Ebria tripartita							1					
Euglenoid	1			1	1	1		1	1	1	1	
Phaeocystis pouchetii												
unid. Nanoflagellates	5	4	3	4	4	3	5	4	4	2	3	
Zooplankton												
Amoeba												
Appendicularian	1											
Ciliate	4	3	4	7	6	6	6	3				
Copepod												
Nauplius												
Pluteus												
Radiolarians												
Rotifer												
Tintinnid	1											
Zoea												
other												
Dominant Species/Group												
name	*Rhizosolenia stolterfothii*	*Rhizosolenia stolterfothii*	*Rhizosolenia stolterfothii*	*Eucampia zoodiacus*	*Eucampia zoodiacus*	*Eucampia zoodiacus*	*Leptocylindrus minimus*	euglenoid sp.	*Eucampia zoodiacus*	*Leptocylindrus minimus*	euglenoid sp.	no sample
count (cells/mL)	~400	~270	~460	~250	~420	~230	8000	~320	~80	2300	~130	
% constituent	100	100	100	100	100	100	100	100	100	100	100	100
Diatoms	65	70	70	40	55	60	75	40	50	75	30	50
Dinoflagellates	20	20	20	40	35	25	10	20	30	15	40	30
Raphidophytes	0	0	1	0	0	0	0	0	0	0	0	0
Other Flagellates	5	2	1	5	3	2	10	35	20	10	30	15
Zooplankton	10	8	8	15	7	13	5	5	0	0	0	5
Biomass	3.0	3.5	3.0	3.0	3.5	2.5	4.0	3.0	2.0	2.5	2.5	2.2

date	14-Sep			22-Sep			26-Sep			3-Oct		
depth	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m
Other Flagellates												
Cryptomonads												
Dictyocha fibula / naked	1	1	1	1	1	1						
Dictyocha speculum		1	1		1							
Dinobryon balticum												
Ebria tripartita												
Euglenoid	1			1		1	2	2	1	1		1
Phaeocystis pouchetii												
unid. Nanoflagellates	5	4	3	5	4	4	2	3	5	2	2	2
Zooplankton												
Amoeba												
Appendicularian				1								
Ciliate	4	3	2	9	6	12	5	3	2	6	2	7
Copepod												
Nauplius	1	1										
Pluteus												
Radiolarians												
Rotifer	1					1	1			1		
Tintinnid	1									1		
Zoea												
other												
Dominant Species/Group												
name	*Leptocylindrus minimus*	*Leptocylindrus minimus*	*Leptocylindrus minimus*	dinoflagellates	*Prorocentrum gracile*	*Cochlodinium polykrikoides*	*Cochlodinium polykrikoides*	*Gonyaulax diagensis*	*Cochlodinium polykrikoides*	*Cochlodinium polykrikoides*	*Cochlodinium polykrikoides*	*Cochlodinium polykrikoides*
count (cells/mL)	13000	18000	2500	1350	~300	~220	~340	~60	~130	1000	~100	~100
% constituent	100	100	100	100	100	100	100	100	100	100	100	100
Diatoms	20	45	50	5	20	5	4	10	5	1	30	35
Dinoflagellates	60	40	30	70	67	75	80	80	90	95	60	55
Raphidophytes	0	0	0	2	1	1	1	0	0	0	0	0
Other Flagellates	10	10	10	3	2	2	10	5	3	1	1	1
Zooplankton	10	5	10	20	10	17	5	5	2	3	9	9
Biomass	3.5	4.0	2.5	4.0	3.5	4.0	4.0	3.0	3.0	5.0	3.0	2.5

Table 25 : Diatoms in Indian Bay samples.

date	09-Jun			16-Jun			23-Jun			30-Jun			08-Jul			14-Jul			21-Jul			28-Jul			05-Aug			11-Aug		
depth	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m
Diatoms																														
Achnanthes sp.																														
Amphiprora/ Tropidoneis																														
Asterionella japonica		1							1	1	1	1	1	1	1								1	1	1	1	1			
Asteromphalus heptactis												1																		
Bacteriastrum sp.										1	1													1						
Biddulphia sp.														1				1												
Campylosira/Plagiogramma																														
Cerautalina sp.					1		1				1												1							
Chaetoceros concavicorne																														
Chaetoceros convolutus																														
Chaetoceros sp.		7	5	5	4	5		3	4	7	10	8	10	9	6	3	3	3	1	2			5	5	4	4	2			1
Corethron hystrix																														
Coscinodiscus sp.									1		1		1		1	1		1						1						
Cylindrotheca closterium			1	1			1				1	1	1	1	1		1		1	1	1			1		1				
Dactylisolen sp.					1														1							1		1		
Detonula pumila			1																											
Ditylum brightwellii	1	1	1	1	1	1			1		1	1	1	1			1						1		1	1		1	1	1
Eucampia zoodiacus					1						1		1	1	1	1	1	1		1	1		1	1			1			
Grammatophora sp.																														
Hemialus sp.																														
Lauderia annulata											1	1		1	1	1	1	1								1				
Leptocylindrus danicus		1	1				1									1					1			1						
Leptocylindrus minimus																			1			1			1	1	1	1	1	1
Licmophora sp.				1	1						1	1				1			1							1	1		1	
Melosira sp.						1																								
Navicula sp.					1		2			1	2	1	1				1			1		1								1
Nitzschioid *sp.*	1	1	1	1	2	2			1		1	1	1	2	1	1	1	1					1							
Pleurosigma/ Gyrosigma sp.				1					1														1							
Pseudonitzschia sp.																									1				1	
Rhizosolenia setigera	1	1	1		1	1								1																
Rhizosolenia sp. (pointy)													1											1						
Rhizosolenia sp. (blunt)										1		1		1	1			1		1			1	1					1	1
Rhizosolenia stolterfothii											1		1	1	1	1	1	1		1	1	1	1	1	1	1	1	1		1
Skeletonema costatum	1	1	1	1	1	1				1	1	1	1	1	1	1	1	1		1	1	1	1	1	1	1	1		1	
Stephanopyxis sp.																		1					1			1				
Thalassionema sp.																		1					1			1			1	
Thalassiosira sp.		2	3	1	1	1	1	1	1	1	3	3	3	3	3		1	1		1		1				1		1		1
misc centric																														
misc pennate																										1				

Table 25 cont'd

date	18-Aug			26-Aug			01-Sep			09-Sep			15-Sep			22-Sep			29-Sep			06-Oct			13-Oct			20-Oct		
depth	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m
Diatoms																														
Achnanthes sp.																														
Amphiprora/ Tropidoneis																														
Asterionella japonica		1				1																								
Asteromphalus heptactis																														
Bacteriastrum sp.																														
Biddulphia sp.																														
Campylosira/Plagiogramma																														
Cerautalina sp.		1	1			1																								1
Chaetoceros concavicorne																														
Chaetoceros convolutus																														
Chaetoceros sp.		1	3						1					1			3	1	3	3	1	2	4	2		1	1			
Corethron hystrix																														
Coscinodiscus sp.											1		1										1	1			1			
Cylindrotheca closterium	1	1														1			1	1								1		1
Dactylisolen sp.	1	1	1																											
Detonula pumila																														
Ditylum brightwellii		1	1	1	1	1	1	1		1	1																			
Eucampia zoodiacus						1		1								1			1			1		1						1
Grammatophora sp.																														
Hemialus sp.																				1										
Lauderia annulata																														
Leptocylindrus danicus	1		1																											
Leptocylindrus minimus	1	1	1	1	1	1	1	1	1	1		1					1													
Licmophora sp.				1													1	1												1
Melosira sp.					1		1																							1
Navicula sp.		1						2		1	1		1			1	1	1				1					1	1		1
Nitzschioid sp.		1	1																											
Pleurosigma/ Gyrosigma sp.																														
Pseudonitzschia sp.								1					1			1			1	1			1							
Rhizosolenia setigera					1					1									1											
Rhizosolenia sp. (pointy)									1																					
Rhizosolenia sp. (blunt)							1	1	1	1						1			1	1	1	1	1	1						
Rhizosolenia stolterfothii	1	1	1	1	1	1	1	1	1	1	1	1							1		1									1
Skeletonema costatum																1	1	1	1	1	1	1	1	1				1		1
Stephanopyxis sp.																														
Thalassionema sp.								1		1																				
Thalassiosira sp.		3	1		1	1	2	2		2		1	1			1	1		1	1	1	1	1	2			1			1
misc centric																														1
misc pennate													1			1				1	1		1	1			1	1		1

Table 26 : Dinoflagellates in Indian Bay samples.

date	09-Jun			16-Jun			23-Jun			30-Jun			08-Jul			14-Jul			21-Jul			28-Jul			05-Aug			11-Aug		
depth	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m
Dinoflagellates																														
Alexandrium sp.																						1						1		
Amphidinium sp.		1									1				1											1	1			
Ceratium divaricatum																														
Ceratium furca																										1				
Ceratium fusus																														
Ceratium lineatum													1		1															1
Ceratium pentagonum																														
Ceratium sp.																												1		
Cochlodinium polykrikoides																														
Cochlodinium sp.																														
Dinophysioid sp.					1								1	1									1						1	
Diplopsalis sp.																														
Gonyaulacoid sp.																														
Gymnodinioid sp.	4	7	8	4	6	6	5	5	6	4	8	7	8	9	6	9	7	7	4	6	2	4	5	6	1	3	1	4	5	5
Gymnodinium galatheanum																														
Gymnodinium sanguineum																														
Gyrodinium spirale - type				1			1				1			1	1	1		1					1	1			1	2		1
Heterocapsa triquetra				1																										
Noctiluca scintillans																														
Noctilucoid sp.																														
Oxyrrhis marina																														
Oxyphysis oxytoxoides					1																									
Polykrikos sp.			1															1												
Prorocentrum gracile																														
Prorocentrum micans																														
Prorocentrum minimum																														
Prorocentrum sp.																														
Protoperidinioid sp.		2	1	4	8	3	1	2	1	2	4		5	6	4	2	3			2			2	3	1	3	2	6	3	3
Pyrocystis lunula																														
Raphidophytes																														
Heterosigma akashiwo		1	1	1	1	1																								

Table 26 cont'd

date	18-Aug			26-Aug			01-Sep			09-Sep			15-Sep			22-Sep			29-Sep			06-Oct			13-Oct			20-Oct		
depth	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m
Dinoflagellates																														
Alexandrium sp.																														
Amphidinium sp.																											1			
Ceratium divaricatum													1			1														
Ceratium furca																				1					1					
Ceratium fusus									1																					
Ceratium lineatum		1					1						1			1							1		1					
Ceratium pentagonum																														
Ceratium sp.							1	1													1									
Cochlodinium polykrikoides																			1	1										
Cochlodinium sp.				1		1																								
Dinophysioid sp.								1																						
Diplopsalis sp.																														
Gonyaulacoid sp.																														
Gymnodinioid sp.	7	7	3	2	6	3	3	6	2	6	6	3	6	8	4	8	5	3	4	4	3	4	4	5	3	4	3		2	1
Gymnodinium galatheanum																														
Gymnodinium sanguineum																														
Gyrodinium spirale - type						1		1		1				1	1				2	1		1	1	1		1	1		1	
Heterocapsa triquetra			1																			1				1				1
Noctiluca scintillans																														
Noctilucoid sp.																														
Oxyrrhis marina																														
Oxyphysis oxytoxoides																														
Polykrikos sp.																														
Prorocentrum gracile	1						1									1	1		1	1	1	1	1		1	1	1			1
Prorocentrum micans	1							1					1		1	1	1	1	1	1	1	1		1	1					1
Prorocentrum minimum																														
Prorocentrum sp.																														
Protoperidinioid sp.	1	1	2	1	2	2	1		1	4	4	1	1			4	4	2	5	2	3	3	3	5	1	3	2			3
Pyrocystis lunula																														
Raphidophytes																														
Heterosigma akashiwo		1	1		1		1			1	1																			

Table 27 : Other flagellates, microzooplankton, dominant species, percent constituent, and total biomass in Indian Bay samples.

date	09-Jun			16-Jun			23-Jun			30-Jun			08-Jul			14-Jul			21-Jul			28-Jul			05-Aug			11-Aug		
depth	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m
Other Flagellates																														
Cryptomonads																														
Dictyocha fibula / naked																				1						1	1			
Dictyocha speculum																							1							1
Dinobryon balticum													1																	
Ebria tripartita																														
Euglenoid			1							1		1										1								
Phaeocystis pouchetii																														
unid. Nanoflagellates	4	4	3	5	3	3	4	4	2	4	4	3	6	4	4	3	3	2	4	4	2	2	5	4	4	4	3	2	3	2
Zooplankton																														
Appendicularian																														
Bipinnaria																														
Ciliate	1	3	1	5	4	3	3	5	4	4	4	1	6	7	4	4	5	2	2	5		3	3	3	3	3	3	7	5	6
Copepod																		1												
Fungus																														
Nauplius	1																	1						1						
Pluteus																														
Radiolarian																														
Rotifer			1				1				1			1																
Tintinnid				1	2			2																					1	
Zoea																														
other										1																	1			
Dominant Species/Group																														
name	*Skeletonema costatum*	*Skeletonema costatum*	*Skeletonema costatum*	*Ditylum brightwellii*	*Ditylum brightwellii*	*Skeletonema costatum*	dinoflagellates	dinoflagellates	*Thalassiosira sp.*	*Bacteriastrum delicatulum*	*Chaetoceros spp.*	*Thalassiosira spp.*	*Chaetoceros spp.*	*Chaetoceros spp.*	*Thalassiosira spp.*	*Eucampia zoodiacus*	*Eucampia zoodiacus*	*Eucampia zoodiacus*	gymnodinioid dinoflagellates	*Rhizosolenia stolterfothii*	*Eucampia zoodiacus*	*Alexandrium sp.*	*Eucampia zoodiacus*	*Eucampia zoodiacus*	*Rhizosolenia stolterfothii*	*Rhizosolenia stolterfothii*	*Rhizosolenia stolterfothii*	*Leptocylindrus minimus*	*Leptocylindrus minimus*	*Leptocylindrus minimus*
count (cells/mL)	~200	1100	1600	~10	~60	~200	~20	~20	~20	~100	~1000	~100	1000	1100	~230	~100	~100	~80	~10	~40	~10	~2	~870	~880	~80	~460	~80	1700	~600	~500
% constituent	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Diatoms	70	78	75	45	55	45	30	20	40	50	65	75	65	70	65	60	80	85	30	45	70	30	80	80	70	80	85	49	40	50
Dinoflagellates	20	10	10	30	35	45	45	45	40	20	20	20	20	15	20	25	10	10	30	25	15	30	10	10	5	10	5	30	35	30
Raphidophytes	0	5	10	5	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Flagellates	5	2	1	10	1	1	5	10	5	10	5	2	5	5	5	1	1	1	20	15	15	10	5	5	5	5	5	1	1	2
Zooplankton	5	5	4	10	8	8	20	25	15	20	10	3	10	10	10	14	9	4	20	15	0	30	5	5	20	5	5	20	24	18
Biomass	2.0	2.5	2.5	2.0	3.0	2.5	1.5	1.5	1.5	2.0	3.0	2.5	3.0	3.0	3.0	2.0	2.0	2.0	1.5	2.0	1.5	1.5	3.0	3.0	2.0	3.0	2.0	3.0	2.0	2.0

Table 27 cont'd

date	18-Aug			26-Aug			01-Sep			09-Sep			15-Sep			22-Sep			29-Sep			06-Oct			13-Oct			20-Oct		
depth	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m
Other Flagellates																														
Cryptomonads																														
Dictyocha fibula / naked	1	1					1	1	1	1	1	1	1	1	1	1	1	1			1									
Dictyocha speculum					1	1		1	1	1											1									
Dinobryon balticum																														
Ebria tripartita															1															
Euglenoid								1					1						1											
Phaeocystis pouchetii																														
unid. Nanoflagellates	5	4	4	3	4	4	5	3	2	3	2	4	4	2	4	5	3	2	5	2	3	3	2	2	6	2	5	4	2	3
Zooplankton																														
Appendicularian																														
Bipinnaria																														
Ciliate	6	2	4	2	6	2	2	3	3	1	2	3	4	2	1	5	5	3	3	1	1	4	3	5	1	1	2	1	1	5
Copepod																														
Fungus																														
Nauplius																	1													
Pluteus																														
Radiolarian																														
Rotifer																												1		
Tintinnid																														
Zoea																														
other																														
Dominant Species/Group																														
name	*Leptocylindrus minimus*	*Leptocylindrus minimus*	*Leptocylindrus minimus*	*Rhizosolenia stolterfothii*	*Leptocylindrus minimus*	*Leptocylindrus minimus*	*Rhizosolenia stolterfothii*	*Rhizosolenia stolterfothii*	*Dictyocha speculum*	*Dictyocha speculum*	*Dictyocha speculum*	*Dictyocha speculum*	*Dictyocha speculum*	*Dictyocha speculum*	*Dictyocha speculum*	*Skeletonema costatum*	*Skeletonema costatum*	*Dictyocha speculum*	*Skeletonema costatum*	*Skeletonema costatum*	*Skeletonema costatum*	*Protoperidinium sp.*	*Protoperidinium sp.*	*Protoperidinium sp.*	*Prorocentrum gracile*	*Chaetoceros sp.*	*Prorocentrum gracile*	diatoms	dinoflagellates	*Protoperidinium sp.*
count (cells/mL)	2300	3700	1500	~80	~800	~380	~260	~100	~30	~115	~100	~60	~10	~75	~50	1400	~700	~60	9200	2500	1600	~30	~14	~7	~40	~15	~10	~20	~4	~60
% constituent	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Diatoms	65	85	90	75	45	60	70	60	30	30	20	25	10	2	0	54	35	30	75	80	75	10	35	45	0	40	25	35	0	10
Dinoflagellates	25	10	5	20	30	25	10	15	10	20	20	20	35	25	18	30	25	30	10	15	20	79	55	45	85	50	65	0	40	80
Raphidophytes	0	1	0	0	0	0	1	0	0	5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Flagellates	2	2	2	1	3	10	14	15	50	43	55	50	35	70	80	1	25	35	10	1	2	1	5	1	10	5	5	35	30	1
Zooplankton	8	2	3	4	22	5	5	10	10	2	4	5	20	3	2	15	15	5	5	4	3	10	5	9	5	5	5	30	30	9
Biomass	2.5	3.0	3.0	2.0	2.5	2.0	2.5	2.0	2.0	3.0	3.0	2.5	1.5	2.5	2.0	2.0	2.0	2.0	4.0	2.5	2.0	2.0	2.0	1.5	2.0	1.5	1.5	1.0	1.0	2.0

Table 28 : Diatoms in Steamer Point samples.

date	28-May			04-Jun			11-Jun			18-Jun			25-Jun			02-Jul			09-Jul			16-Jul			30-Jul			13-Aug		
depth	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m
Diatoms																														
Achnanthes sp.																									1					
Amphiprora/ Tropidoneis																														
Asterionella japonica											1			1			1		1	1	1									
Asteromphalus heptactis																														
Bacteriastrum sp.										1	1				1	1	1	1	1	1	1									
Biddulphia sp.																														
Campylosira/Plagiogramma																							1							
Cerautalina sp.							1				1						1	1												
Chaetoceros concavicorne																														
Chaetoceros convolutus		1	1		1	1	1	1		1	1	1		1	1		1		1	1	1									
Chaetoceros sp.	6	2	2	4	5	5	5	9	6	10	10	8		10	9	8	11	9	8	9	9	1	1	1		1			1	
Corethron hystrix				1	1				1		1	1		1			1	1		1	1									
Coscinodiscus sp.															1		1						1			1	1			
Cylindrotheca closterium						1	1			1		1		1			1			1	1		1		1	1				1
Dactylisolen sp.	1									1						1	1		1	1	1	1	1							
Detonula pumila					1																									
Ditylum brightwellii								1		1		1		1	1		1	1	1	1	1			1						
Eucampia zoodiacus																				1	1		1	1						
Grammatophora sp.																														
Hemiaulus sp.																														
Lauderia annulata															1		1			1	1									
Leptocylindrus danicus								1						1	1		1	1		1	1	1	1	1						
Leptocylindrus minimus				1																								1	1	1
Licmophora sp.																							1		1					
Melosira sp.	1																	1												
Navicula sp.	1					1		1	1		1	1		1			2	2		1	1				1		1			
Nitzschioid sp.	1	1				1	1	1	1	2	2	1		1	1	1	1	1	1	2	1			2						
Pleurosigma/ Gyrosigma sp.								1																						
Pseudonitzschia sp.																														
Rhizosolenia setigera	1	1	1	1	1	1	1	1	1	1	1	1		1	1	1	1	1	1	1	1	1		1						
Rhizosolenia sp. (pointy)																	1													
Rhizosolenia sp. (blunt)							1	1							1	1	1		1	1										
Rhizosolenia stolterfothii																		1						1						
Skeletonema costatum	1	1	1	1	1	1	1	1	1	1	1	1		1	1	1	1	1	1	1	1									
Stephanopyxis sp.																														
Thalassionema sp.								1		1	1	1		1	1		1	1	1		1	1			1					
Thalassiosira sp.	1	1	1	2	1	2	3	3	2	2	3	2		3	3	1	3	3	1	3	2	1	2	1						
misc centric																														
misc pennate																														

Table 28 cont'd

date	20-Aug			27-Aug			03-Sep			10-Sep			17-Sep			24-Sep			01-Oct			15-Oct		
depth	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m
Diatoms																								
Achnanthes sp.																					1			
Amphiprora/ Tropidoneis																								
Asterionella japonica																								
Asteromphalus heptactis																								
Bacteriastrum sp.																								
Biddulphia sp.																							1	1
Campylosira/Plagiogramma																								
Cerautalina sp.					1																			
Chaetoceros concavicorne																								
Chaetoceros convolutus																								
Chaetoceros sp.					2	1																		
Corethron hystrix																								
Coscinodiscus sp.					1		1						1							1				
Cylindrotheca closterium	1	1	1	1	1		1	1	1	1	1	1							1	1	1			1
Dactylisolen sp.																								
Detonula pumila																								
Ditylum brightwellii		1			1		1				1	1			1									
Eucampia zoodiacus					1	1																		
Grammatophora sp.																								
Hemiaulus sp.																								
Lauderia annulata																								
Leptocylindrus danicus																				1				
Leptocylindrus minimus	1	1	1							1	1	1	1				1	1	1	1	1	1	1	1
Licmophora sp.									1															
Melosira sp.																						1		1
Navicula sp.			1			1	1		1				1											1
Nitzschioid sp.																								
Pleurosigma/ Gyrosigma sp.																								
Pseudonitzschia sp.															1									
Rhizosolenia setigera																								
Rhizosolenia sp. (pointy)						1																		
Rhizosolenia sp. (blunt)	1						1	1											1					
Rhizosolenia stolterfothii					1					1														
Skeletonema costatum				1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Stephanopyxis sp.																								
Thalassionema sp.																								
Thalassiosira sp.		1			1	1		1		1	1	1							1	1		1		1
misc centric												1												
misc pennate								2	1											2				1

Table 29 : Dinoflagellates in Steamer Point samples.

date	28-May			04-Jun			11-Jun			18-Jun			25-Jun			02-Jul			09-Jul			16-Jul			30-Jul			13-Aug		
depth	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m
Dinoflagellates																														
Alexandrium sp.																						1	1	1				1	1	1
Amphidinium sp.												1		1	1			1		1							1			
Ceratium divaricatum																									1	1	1	1	1	1
Ceratium furca																						1							1	
Ceratium fusus																							1						1	
Ceratium lineatum					1	1						1											1	1						1
Ceratium pentagonum					1																									
Ceratium sp.																						1		1						
Cochlodinium polykrikoides																														
Cochlodinium sp.																							1							
Dinophysioid sp.											1											1	2		1	1	1	2	2	2
Diplopsalis sp.																														
Gonyaulacoid sp.											1																			
Gonyaulax digitale																														
Gymnodinioid sp.	2	2	4	1	3	3	3	3	3	3	3	4		5	2	1	4	1	7	5	3	7	7	8	5	6	6	8	9	9
Gymnodinium galatheanum																														
Gyrodinium spirale - type	1									2	2	2		1			1	1		1	1			1		1	1	1		1
Heterocapsa triquetra	1	1				1	1				1	1					1	1	1			1	1							
Noctiluca scintillans																														
Noctilucoid sp.																														
Oxyrrhis marina																														
Oxyphysis oxytoxoides																												1	1	
Polykrikos sp.																														
Prorocentrum gracile																						1	1	1	1	1	1	1	1	
Prorocentrum micans																						1								
Prorocentrum minimum																												1		
Prorocentrum sp.																														
Protoperidinioid sp.	1	2	2	2	1	1	4	3	3	3	7	3		4			6	4	4	1		10	12	12	6	6	4	6	7	4
Pyrocystis lunula																														
Raphidophytes																														
Heterosigma akashiwo																						1			1	1	1			
Chattonella cf. marina																														

Table 29 cont'd

date	20-Aug			27-Aug			03-Sep			10-Sep			17-Sep			24-Sep			01-Oct			15-Oct		
depth	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m
Dinoflagellates																								
Alexandrium sp.	1	1	1	1	1	1	1				1		1	1	1									
Amphidinium sp.																								
Ceratium divaricatum	1			1			1			1	1	1	1	1					1		1			
Ceratium furca		1								1														
Ceratium fusus					1	1	1	1		1	1	1	1	1		1			1	1		1	1	
Ceratium lineatum	1				1		1			1	1	1	1	1	1				1	1	1		1	1
Ceratium pentagonum																								
Ceratium sp.																								
Cochlodinium polykrikoides										1	1													
Cochlodinium sp.																								
Dinophysioid sp.	1	1			1	1		1		1	1	2	2	1								1		
Diplopsalis sp.																								
Gonyaulacoid sp.																				1	1			
Gonyaulax digitale																								
Gymnodinioid sp.	6	6	6	9	7	6	7	7	6	10	11	10	8	9	6	10	10	6	5	4	7	6	2	3
Gymnodinium galatheanum																								
Gyrodinium spirale - type							1	2		2	2	2	2	2	2	1	2	1	2	2	2	1	1	
Heterocapsa triquetra																			1					
Noctiluca scintillans	1									1														
Noctilucoid sp.																								
Oxyrrhis marina																								
Oxyphysis oxytoxoides												1	1									1		
Polykrikos sp.																								
Prorocentrum gracile		1		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		1	
Prorocentrum micans	1		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
Prorocentrum minimum																								
Prorocentrum sp.											1													
Protoperidinioid sp.	3	1		9	4	4	3	4	2	9	6	7	7	2	5		4	1	5	4	2	3	2	3
Pyrocystis lunula													1											
Raphidophytes																								
Heterosigma akashiwo	1	1		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			
Chattonella cf. marina																								

Table 30 : Other flagellates, microzooplankton, dominant species, percent constituent, and total biomass in Steamer Point samples.

date	28-May			04-Jun			11-Jun			18-Jun			25-Jun		
depth	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m
Other Flagellates															
Cryptomonads															
Dictyocha fibula / naked															
Dictyocha speculum					1				1			1			
Dinobryon balticum															
Ebria tripartita				1	1	1						1			
Euglenoid		1	1							1	1			1	
Phaeocystis pouchetii															
unid. Nanoflagellates	4	3	3	3	4	3	3	4	3	4	6	3		3	2
Zooplankton															
Amoeba															
Appendicularian											1				
Ciliate	4	6	4	5	5	5		6	4	1	6	7		3	2
Copepod									1						
Nauplius			1		1										
Pluteus															
Radiolarian															
Rotifer															
Tintinnid							1			1	1	1		1	
Zoea															
other															
Dominant Species/Group															
name	*Skeletonema costatum*	*Skeletonema costatum*	*Skeletonema costatum*	*Skeletonema costatum*	*Skeletonema costatum*	*Skeletonema costatum*	*Skeletonema costatum*	*Skeletonema costatum*	*Skeletonema costatum*	*Skeletonema costatum*	*Skeletonema costatum*	*Skeletonema costatum*	no sample	*Skeletonema costatum*	*Skeletonema costatum*
count (cells/mL)	6400	500	~200	3000	2500	~1400	8800	41000	9000	4400	4800	2100		1700	1300
% constituent	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Diatoms	85	80	65	85	80	80	95	96	95	95	90	70	96	85	90
Dinoflagellates	10	10	15	8	10	10	3	1	1	3	6	20	2	10	5
Raphidophytes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Flagellates	2	2	5	2	2	2	1	1	1	1	1	1	1.5	1	1
Zooplankton	3	8	15	5	8	8	1	2	3	1	3	9	0.5	4	4
Biomass	3.0	2.5	2.0	3.5	3.5	3.0	4.0	4.5	4.0	3.5	3.5	3.0	3.0	3.0	2.5

date	02-Jul			09-Jul			16-Jul			30-Jul			13-Aug		
depth	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m
Other Flagellates															
Cryptomonads															
Dictyocha fibula / naked							1	1		1	1		1		
Dictyocha speculum				1			1				1	1			
Dinobryon balticum															
Ebria tripartita															
Euglenoid											1	1	1	1	
Phaeocystis pouchetii				1											
unid. Nanoflagellates	3	4	3	3	4	3	4	4	5	4	4	3	2	3	3
Zooplankton															
Amoeba															
Appendicularian															
Ciliate		5	1	8	4	2	9	9	10	5	4		8	7	4
Copepod															
Nauplius													1		
Pluteus															
Radiolarian															
Rotifer								2							
Tintinnid				2			2	3	2	1			2	2	1
Zoea															
other			1												1
Dominant Species/Group															
name	*Chaetoceros spp.*	*Chaetoceros spp.*	*Skeletonema costatum*	*Chaetoceros spp.*	*Chaetoceros spp.*	*Chaetoceros spp.*	dinoflagellates	dinoflagellates	*Eucampia zoodiacus*	*Heterosigma akashiwo*	*Heterosigma akashiwo*	*Heterosigma akashiwo*	dinoflagellates	dinoflagellates	dinoflagellates
count (cells/mL)	~1000	5600	2100	3800	4600	3300	~300	~150	~40	2200	1350	~120	~240	~300	~150
% constituent	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Diatoms	97	85	90	75	90	90	12	15	25	5	5	5	1	1	2
Dinoflagellates	1	10	7	15	5	6	50	55	40	10	10	30	60	65	80
Raphidophytes	0	0	0	0	0	0	3	0	0	70	75	55	0	0	0
Other Flagellates	2	1	1	1	1	1	10	5	5	5	5	10	9	4	3
Zooplankton	0	4	2	9	4	3	25	25	30	10	5	0	30	30	15
Biomass	2.5	4.0	3.5	3.5	3.5	3.0	3.0	2.5	2.5	3.5	3.0	2.0	2.5	2.5	2.5

Table 30 cont'd

date	20-Aug			27-Aug			03-Sep			10-Sep			17-Sep			24-Sep			01-Oct			15-Oct		
depth	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m
Other Flagellates																								
Cryptomonads																								
Dictyocha fibula / naked							1	1	1	1	1	1	1	1					1	1	1			
Dictyocha speculum	1			1	1	1	1	1	1	1	1	1			1	1								
Dinobryon balticum																								
Ebria tripartita				1	1	1						1												
Euglenoid												1					1		1	1		1		
Phaeocystis pouchetii																								
unid. Nanoflagellates	5	5	5	3	3	2	3	3	3	6	6	4	6	5	6	5	5	2	4	5	2	4	2	2
Zooplankton																								
Amoeba	1																							
Appendicularian																								
Ciliate	4	5	3	7	3	1	4	5	5	9	10	9	9	9	5	6	6		11	9	7	7	6	2
Copepod																								
Nauplius										1													1	1
Pluteus																								
Radiolarian																							1	
Rotifer											1													
Tintinnid	1			1	2	1					2	2										1	1	
Zoea																								
other							1																	
Dominant Species/Group																								
name	nanoflagellates	dinoflagellates	*Alexandrium sp.*	*Heterosigma akashiwo*	*Dictyocha speculum*	dinoflagellates	*Heterosigma akashiwo*	*Heterosigma akashiwo*	*Heterosigma akashiwo*	*Heterosigma akashiwo*	*Ceratium fusus*	dinoflagellates	*Prorocentrum gracile*	*Heterosigma akashiwo*	*Heterosigma akashiwo*	*Prorocentrum spp.*	*Prorocentrum gracile*	*Prorocentrum micans*	*Skeletonema costatum*	*Skeletonema costatum*	*Skeletonema costatum*	*Skeletonema costatum*	*Skeletonema costatum*	*Skeletonema costatum*
count (cells/mL)	14000	~160	~4	~210	~40	~60	~750	~500	~260	~180	~20	~560	~580	~260	~165	~60	~250	~20	2000	~600	~400	~1000	~600	~700
% constituent	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Diatoms	10	15	15	5	25	20	10	15	20	5	5	5	5	5	5	35	15	10	40	35	35	35	50	65
Dinoflagellates	45	45	35	45	45	50	50	35	30	55	60	60	70	50	50	45	50	79	40	40	40	40	17	23
Raphidophytes	0	0	0	15	1	1	30	30	30	15	10	10	10	25	25	1	15	10	1	1	1	0	0	0
Other Flagellates	35	20	25	5	20	24	1	2	5	10	10	10	3	5	5	1	10	1	1	2	1	5	3	2
Zooplankton	10	20	25	30	9	5	9	18	15	15	15	15	12	15	15	18	10	0	18	22	23	20	30	10
Biomass	4.0	2.0	1.5	3.0	2.5	2.0	4.0	3.0	2.5	4.0	4.0	3.5	4.0	3.0	3.0	2.5	4.0	2.0	4.0	3.0	2.5	2.5	2.0	2.0

Table 31 : Diatoms in Koskimo Bay samples.

date	14-Jun			22-Jun			30-Jun			08-Jul			21-Jul			28-Jul			06-Aug			11-Aug			19-Aug			25-Aug		
depth	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m
Diatoms																														
Achnanthes sp.																														
Amphiprora/ Tropidoneis																														
Asterionella japonica							1		1									1												
Asteromphalus hepactis																														
Bacteriastrum sp.										1																				
Biddulphia sp.																														
Campylosira/Plagiogramma																														
Cerautalina sp.																														
Chaetoceros concavicorne																														
Chaetoceros convolutus						1	1	1	1								1			1										1
Chaetocaros sp.				6	6	4	10	11	11	5	4	1	1	1		4	4	6	3	3	3			5	1			4	6	6
Corethron hystrix							1																							
Coscinodiscus sp.														1										1	1					
Cylindrotheca closterium							1	1								1	1	1											1	
Dactylisolen sp.		1																										1		1
Detonula pumila																														
Ditylum brightwellii																													1	1
Eucampia zoodiacus								1														1		1	1	1		1	1	1
Grammatophora sp.														1																
Hemialus sp.																														
Lauderia annulata													1								1									
Leptocylindrus danicus								1	1					1		1		1			1			1				1	1	
Leptocylindrus minimus																									1					
Licmophora sp.					1															1	1		1							
Melosira sp.																														
Navicula sp.				1			1	1	1				1				1		1	1	1	1				1		1	1	1
Nitzschioid sp.					1		2	1	2							1	2	1									1			
Pleurosigma/ Gyrosigma sp.				1																										
Pseudonitzschia sp.																			1		1		1	1				1	1	
Rhizosolenia setigera							1	1	1			1						1			1									
Rhizosolenia sp. (pointy)																														1
Rhizosolenia sp. (blunt)																						1						1	1	
Rhizosolenia stolterfothii																									1			1	1	1
Skeletonema costatum			1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			1						
Stephanopyxis sp.																												1		
Thalassionema sp.							1	1	1								1		1	1		1		1	1	1		1	1	1
Thalassiosira sp.	1	1	1	1	1	1	1	2			1		1			1	2	2	2	2	2	1	1	1						1
Thalassiothrix sp.																												1	1	1
misc centric																							1							
misc pennate																1	1	1						1					1	

Table 31 cont'd

date	01-Sep			08-Sep			16-Sep			22-Sep			01-Oct			27-Oct		
depth	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m
Diatoms																		
Achnanthes sp.																		
Amphiproral Tropidoneis																		
Asterionella japonica					1			1										
Asteromphalus hepactis																		
Bacteriastrum sp.																		
Biddulphia sp.																		
CampylosiralPlagiogramma																		
Cerautalina sp.				1	1	1		1										
Chaetoceros concavicorne																		
Chaetoceros convolutus				1	1	1						1		1				
Chaetoceros sp.			1	6	3	5	2	4					7	6	6			
Corethron hystrix																		
Coscinodiscus sp.		1	1															
Cylindrotheca closterium		1			1							1	1		1			
Dactylisolen sp.						1	1	1										
Detonula pumila																		
Ditylum brightwellii	1			1		1	1	1	1		1		1	1	1			
Eucampia zoodiacus	1	1	1	1	1	1							1					
Grammatophora sp.																		
Hemialus sp.													1					
Lauderia annulata																		
Leptocylindrus danicus					1			1	1					1	1			
Leptocylindrus minimus										1	1		1	1	1			
Licmophora sp.																		
Melosira sp.											1							
Navicula sp.	1			1	1	1	1	1										
Nitzschioid sp.																		
Pleurosigmal Gyrosigma sp.																		
Pseudonitzschia sp.			1	1	1	1				1	1		1	1	1			
Rhizosolenia setigera																		
Rhizosolenia sp. (pointy)																		
Rhizosolenia sp. (blunt)		1											1	1				
Rhizosolenia stolterfothii					1	1							1	1				
Skeletonema costatum					1	1		1	1	1			1	1	1			
Stephanopyxis sp.																		
Thalassionema sp.					1						1	1	1	1	1			
Thalassiosira sp.		1		2	2	2	2	2	2	1	2	1	2	1	2	1		
Thalassiothrix sp.													1	1				
misc centric					1	1		1										
misc pennate				1	2	2	1						1	1				1

Table 32: Dinoflagellates in Koskimo Bay samples.

date	14-Jun			22-Jun			30-Jun			08-Jul			21-Jul			28-Jul			06-Aug			11-Aug			19-Aug			25-Aug		
depth	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m
Dinoflagellates																														
Alexandrium sp.		1	1																					1			1			
Amphidinium sp.																												1	1	1
Ceratium divaricatum																	1								1	1	1	1	1	1
Ceratium furca																			1						1	1			1	
Ceratium fusus																														
Ceratium lineatum													1	1						1					1			1	1	1
Ceratium minutum																										1				
Ceratium pentagonum	1		1																											
Ceratium sp.													1																	
Cochlodinium polykrikoides																												1		
Cochlodinium sp.																														
Dinophysioid sp.													1	1	1		1			1			1	1		1		1		1
Diplopsalis sp.																									1					
Gonyaulacoid sp.		1	1											1			1													1
Gymnodinioid sp.	6	7	2	1	1		8	4	5		1		5	6	1	4	7	4	7	8	5	6	8	1	8	6	3	7	9	7
Gymnodinium galatheanum																														
Gymnodinium mikimotoi																												1		
Gymnodinium sanguineum																														
Gyrodinium spirale-type		1					1	1	2							1		1	1	1	2	1	1			2		1	2	1
Heterocapsa triquetra		1	1				1						1	1	1	1	1	1	1	1			1		1	1		1		1
Noctiluca scintillans	1																													
Noctilucoid sp.																														
Oxyrrhis marina																														
Oxyphysis oxytoxoides																						1								
Polykrikos sp.																	1		1	1								1	1	1
Prorocentrum gracile	1												1			1	1	1			1	1	1		1	1	1	1	1	1
Prorocentrum micans													1				1			1						1	1	1		1
Prorocentrum minimum							1	1	1																					
Prorocentrum sp.		1															1													
Protoperidinioid sp.	5	6	6	1			5	3	5		2		6	3		4	4	4	5	4	5	9	3	1	5	8	2	9	8	9
Pyrocystis lunula									1																					
Scrippsiella trochoidea													1												1	1	1			
Torodinium robustum																														
Raphidophytes																														
Heterosigma akashiwo													1	1		1	1	1	1	1	1				1	1	1	1		

Table 32 cont'd

date	01-Sep			08-Sep			16-Sep			22-Sep			01-Oct			27-Oct		
depth	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m
Dinoflagellates																		
Alexandrium sp.							1	1	1	1	1		1	1	1			
Amphidinium sp.				1	1	1				1			1					
Ceratium divaricatum		1		1		1	1	1	1	1	1			1	1			
Ceratium furca							1											
Ceratium fusus								1										
Ceratium lineatum				1	1	1				1	1	1	1	1	1			
Ceratium minutum							1	1										
Ceratium pentagonum																		
Ceratium sp.																		
Cochlodinium polykrikoides	1	1	1				1	1								1		
Cochlodinium sp.																		
Dinophysioid sp.		1	1	1			1	2		2	1			2				
Diplopsalis sp.				1		1												
Gonyaulacoid sp.											1							
Gymnodinioid sp.	3	5	2	13	9	11	10	8	1	9	11	6	7	11	4	1	4	1
Gymnodinium galatheanum																		
Gymnodinium mikimotoi				1		1				1				1	1			
Gymnodinium sanguineum							1	1					1	1				
Gyrodinium spirale-type	1	1	1	2	1			1			1	1	2	1			1	
Heterocapsa triquetra	1		1	1		1	1	1		1			1	1				
Noctiluca scintillans																		
Noctilucoid sp.																		
Oxyrrhis marina																		
Oxyphysis oxytoxoides	1	1		1			1											
Polykrikos sp.		1					1											
Prorocentrum gracile		1		1	1	1	1	1		1	1	1	1	1	1			
Prorocentrum micans				1		1	1	1	1		1		1	1	1	1		
Prorocentrum minimum																		
Prorocentrum sp.				1		1	1			1	1	1	1					
Protoperidinioid sp.	6	6	1	6	6	6	8	9	2	9	2	2	5	7	1	1		
Pyrocystis lunula																		
Scrippsiella trochoidea																		
Torodinium robustum																		
Raphidophytes																		
Heterosigma akashiwo	1	1				1	1	1	1	1	1	1	1	1	1			

Table 33: Other flagellates, microzooplankton, dominant species, percent constituent, and total biomass in Koskimo Bay samples.

date	14-Jun			22-Jun			30-Jun			08-Jul			21-Jul			28-Jul			06-Aug			11-Aug			19-Aug			25-Aug		
depth	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m
Other Flagellates																														
Cryptomonads																														
Dictyocha fibula / naked			1										1	1											1			1		1
Dictyocha speculum		1		1				1										1												
Dinobryon balticum																												1		
Ebria tripartita																		1			1									
Euglenoid				1		1							1	1																
Phaeocystis pouchetii																														
Radiolarian																														
unid. Nanoflagellates	3	2	2	2	1	3	6	4	4	4	2	3	4	3	2	5	4	5	3	4	4	2	3	2	3	2	4	2	5	2
Zooplankton																														
Amoebae																														
Appendicularian																														
Barnacle nauplius																														
Bipinnaria																														
Ciliate	10	12	11	1	1		8	8	8				3	3		9	10	9	6	9	9	6	12	2	1	4		10	9	10
Copepod																														
Nauplius	1						1		1																				1	
Pluteus																														
Radiolarians																														
Rotifer																						1						1		1
Tintinnid	1	1	1					2	1				1			3	1		1	1	1	1	1					2	2	2
Zoea																														
other																														
Dominant Species/Group																														
name	ciliates	ciliates	ciliates	*Skeletonema costatum*	*Skeletonema costatum*	*Skeletonema costatum*	*Skeletonema costatum*	*Skeletonema costatum*	*Skeletonema costatum*	*Skeletonema costatum*	*Skeletonema costatum*	*Skeletonema costatum*	*Heterocapsa triquetra*	dinoflagellates	dinoflagellates	*Heterosigma akashiwo*	*Heterosigma akashiwo*	*Heterosigma akashiwo*	*Heterosigma akashiwo*	*Heterosigma akashiwo*	*Heterosigma akashiwo*	dinoflagellates	dinoflagellates	*Skeletonema costatum*	*Ceratium divaricatum*	*Ceratium divaricatum*	*Ceratium divaricatum*	*Eucampia zoodiacus*	*Eucampia zoodiacus*	*Eucampia zoodiacus*
count (cells/mL)	~80	~80	~60	~800	1300	~600	5000	4200	5000	1800	2800	~200	~60	~200	~3	~350	~170	~90	~800	~640	~470	~250	~240	~500	~30	~20	~4	~450	~750	1200
% constituent	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Diatoms	1	2	1	80	90	95	75	75	75	95	95	95	25	20	10	20	25	30	25	25	25	15	10	85	22	8	1	40	55	65
Dinoflagellates	35	45	45	10	1	0	10	12	10	0	4	0	65	65	70	25	25	30	25	30	30	50	50	10	75	85	95	30	25	20
Raphidophytes	0	0	0	0	0	0	0	0	0	0	0	0	3	1	0	25	20	15	40	30	30	0	0	0	1	1	1	1	0	0
Other Flagellates	4	3	1	5	1	5	5	3	3	5	1	5	2	9	20	5	5	5	1	1	2	5	3	2	1	1	3	4	2	1
Zooplankton	60	50	53	5	8	0	10	10	12	0	0	0	5	5	0	25	25	20	9	14	13	30	37	3	1	5	0	25	18	14
Biomass	2.5	2.5	2.0	2.5	2.5	2.0	4.0	4.0	4.0	2.5	3.0	1.5	2.5	2.5	1.0	3.0	3.0	2.5	3.0	3.5	3.0	2.5	2.5	2.5	3.0	2.5	2.0	3.5	3.5	3.5

Table 33 cont'd

date	01-Sep			08-Sep			16-Sep			22-Sep			01-Oct			27-Oct		
depth	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m	1m	5m	10m
Other Flagellates																		
Cryptomonads																		
Dictyocha fibula / naked					1	1					1							
Dictyocha speculum				1			1	1		1			1	1	1			
Dinobryon balticum																		
Ebria tripartita																		
Euglenoid	1							1										
Phaeocystis pouchetii																		
Radiolarian																		
unid. Nanoflagellates	4	3	5	6	4	4	6	3	1	6	5	5	5	4	4	5	4	3
Zooplankton																		
Amoebae																		
Appendicularian																		
Barnacle nauplius																		
Bipinnaria																		
Ciliate	1	6	4	8	10	12	7	4	1	5	1	5	6	8	2	3	1	1
Copepod																		
Nauplius								1										
Pluteus																		
Radiolarians												1						
Rotifer			1	1									1					
Tintinnid				1	1	1				2		1	2					
Zoea																		
other										1								
Dominant Species/Group																		
name	*Cochlodinium polykrikoides*	*Eucampia zoodiacus*	*Eucampia zoodiacus*	*Eucampia zoodiacus*	*Eucampia zoodiacus*	*Eucampia zoodiacus*	*Heterosigma akashiwo*	*Prorocentrum micans*	*Ditylum brightwellii*	*Ceratium divaricatum*	*Prorocentrum gracile*	dinoflagellates	*Prorocentrum micans*	*Prorocentrum micans*	*Prorocentrum micans*	dinoflagellates	dinoflagellates	dinoflagellates
count (cells/mL)	~40	~140	~160	~850	~950	1000	~630	~60	~5	~23	~40	~50	~50	~60	~20	~8	~6	~4
% constituent	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Diatoms	40	60	70	55	70	70	3	12	65	1	4	4	30	30	50	10	0	10
Dinoflagellates	55	27	20	25	10	15	50	60	28	75	90	85	60	45	40	40	45	40
Raphidophytes	0	2	0	0	0	0	40	20	5	10	1	1	1	1	0	0	0	0
Other Flagellates	2	1	2	2	1	2	2	3	1	4	4	2	1	2	1	25	35	30
Zooplankton	3	10	8	18	19	13	5	5	1	10	1	8	8	22	9	25	20	20
Biomass	2.5	2.5	2.5	3.5	3.0	3.0	4.0	3.5	1.5	3.5	2.5	2.0	3.5	3.0	2.5	1.0	1.0	1.0

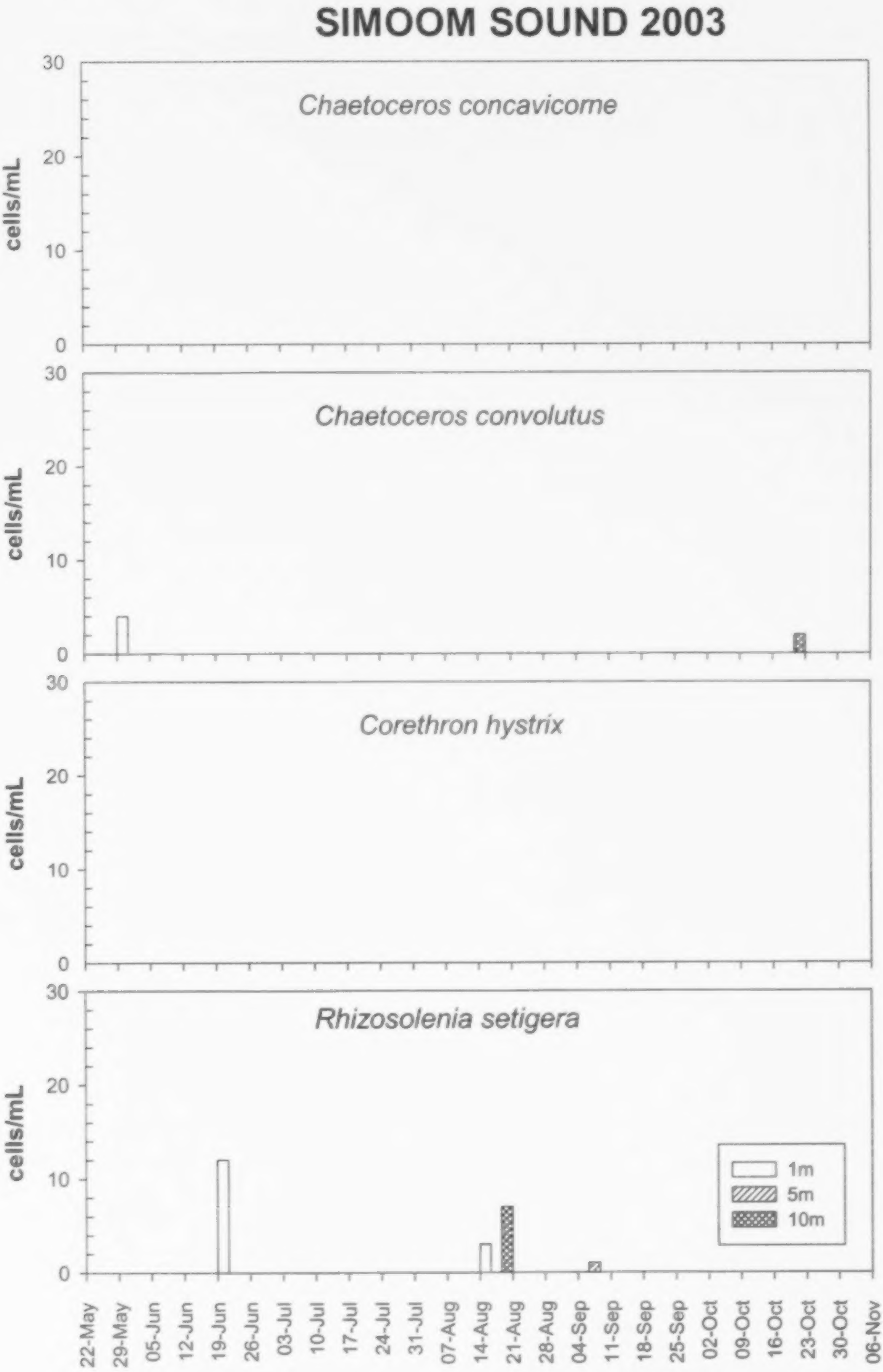


Figure 2: Harmful phytoplankton species in Simoom Sound samples.

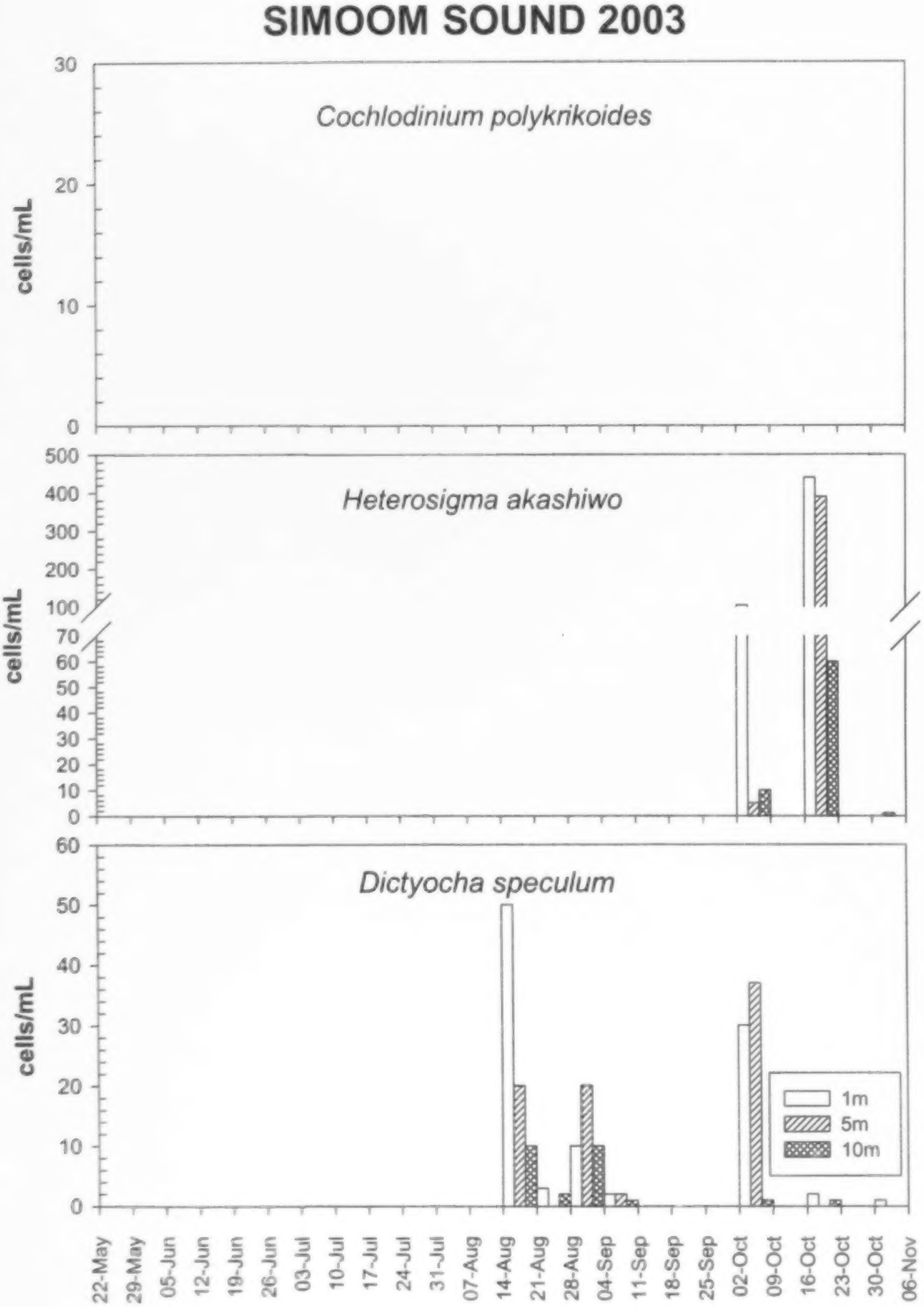


Figure 3: Harmful phytoplankton species in Simoom Sound samples.

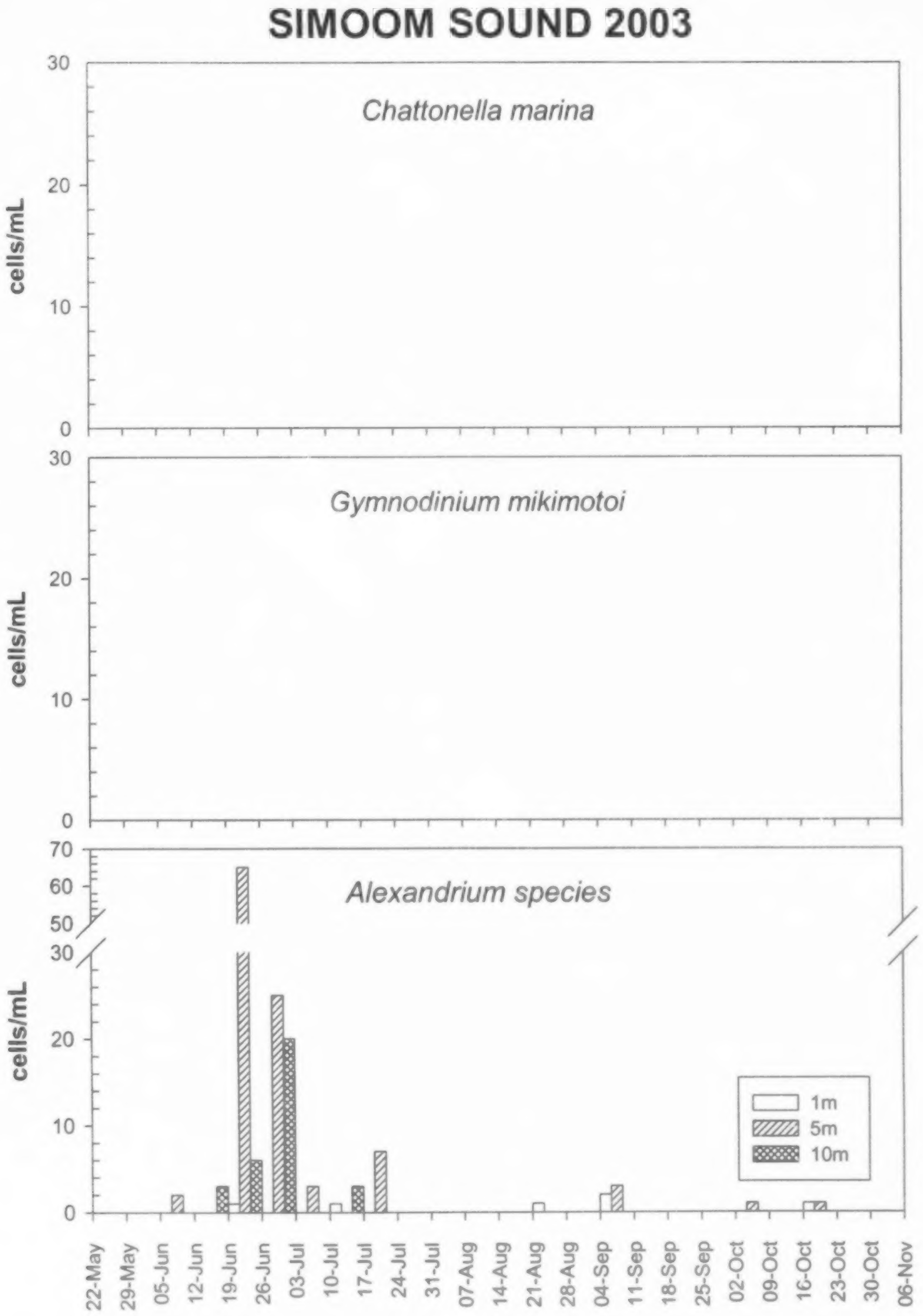


Figure 4: Harmful phytoplankton species in Simoom Sound samples.

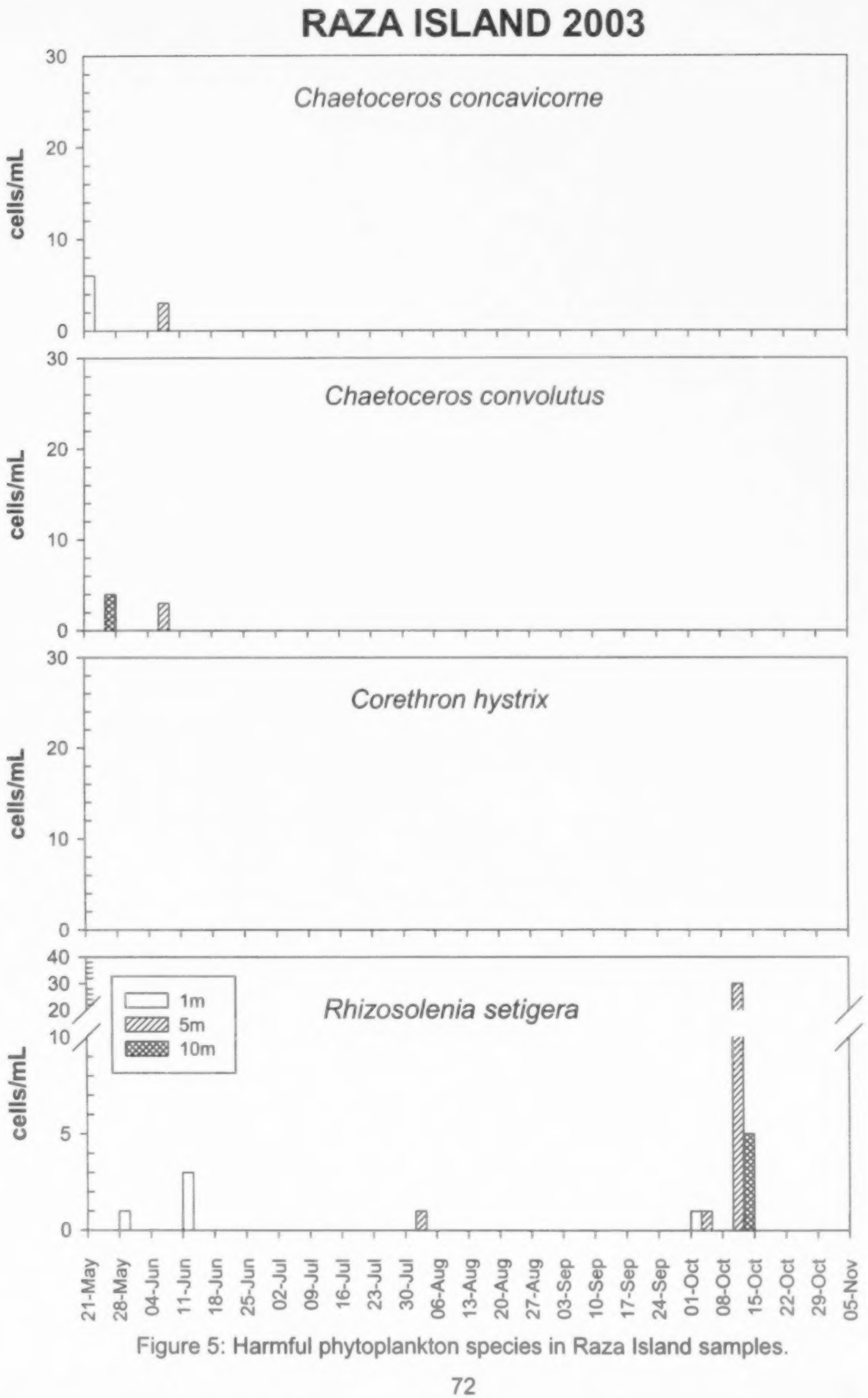


Figure 5: Harmful phytoplankton species in Raza Island samples.

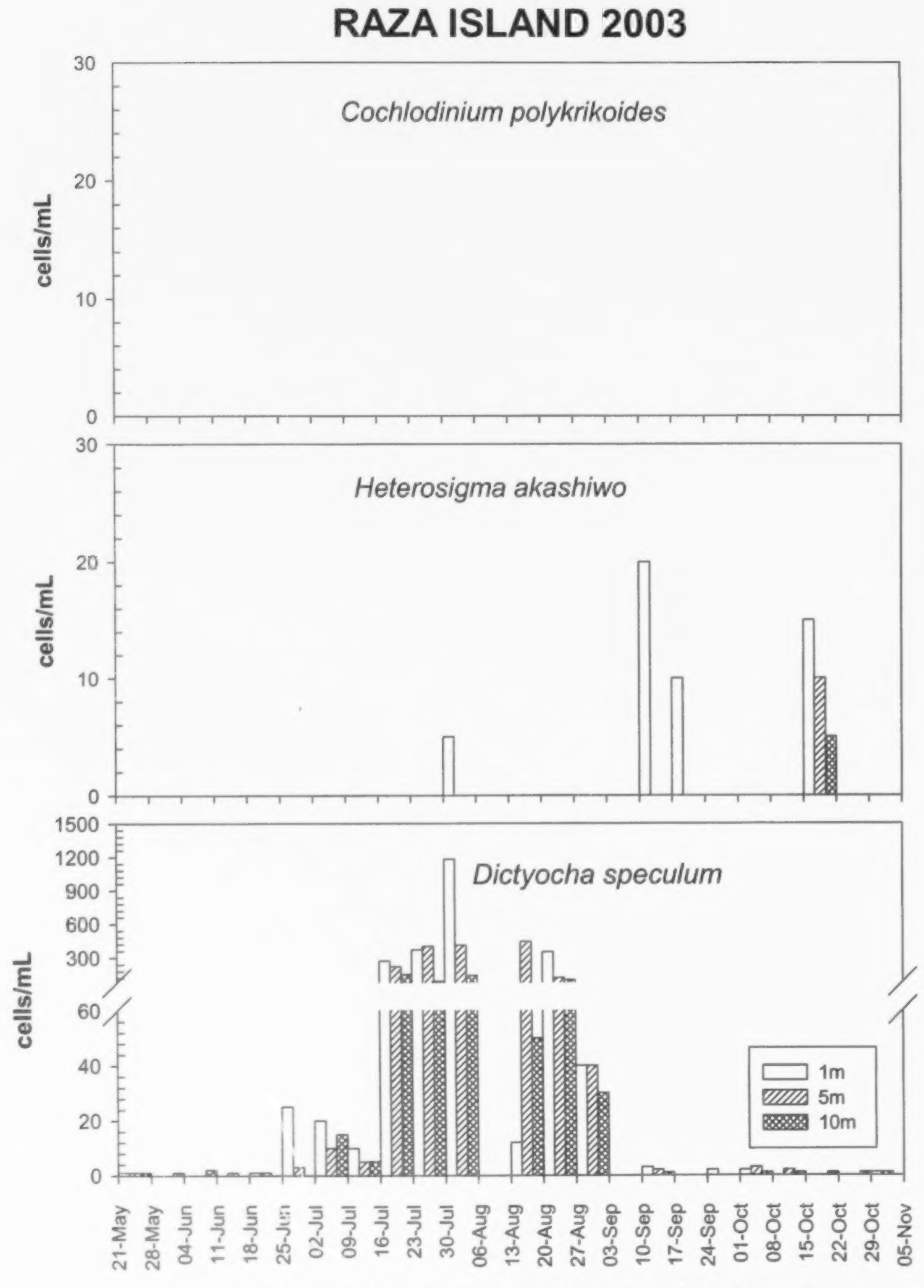


Figure 6: Harmful phytoplankton species in Raza Island samples.

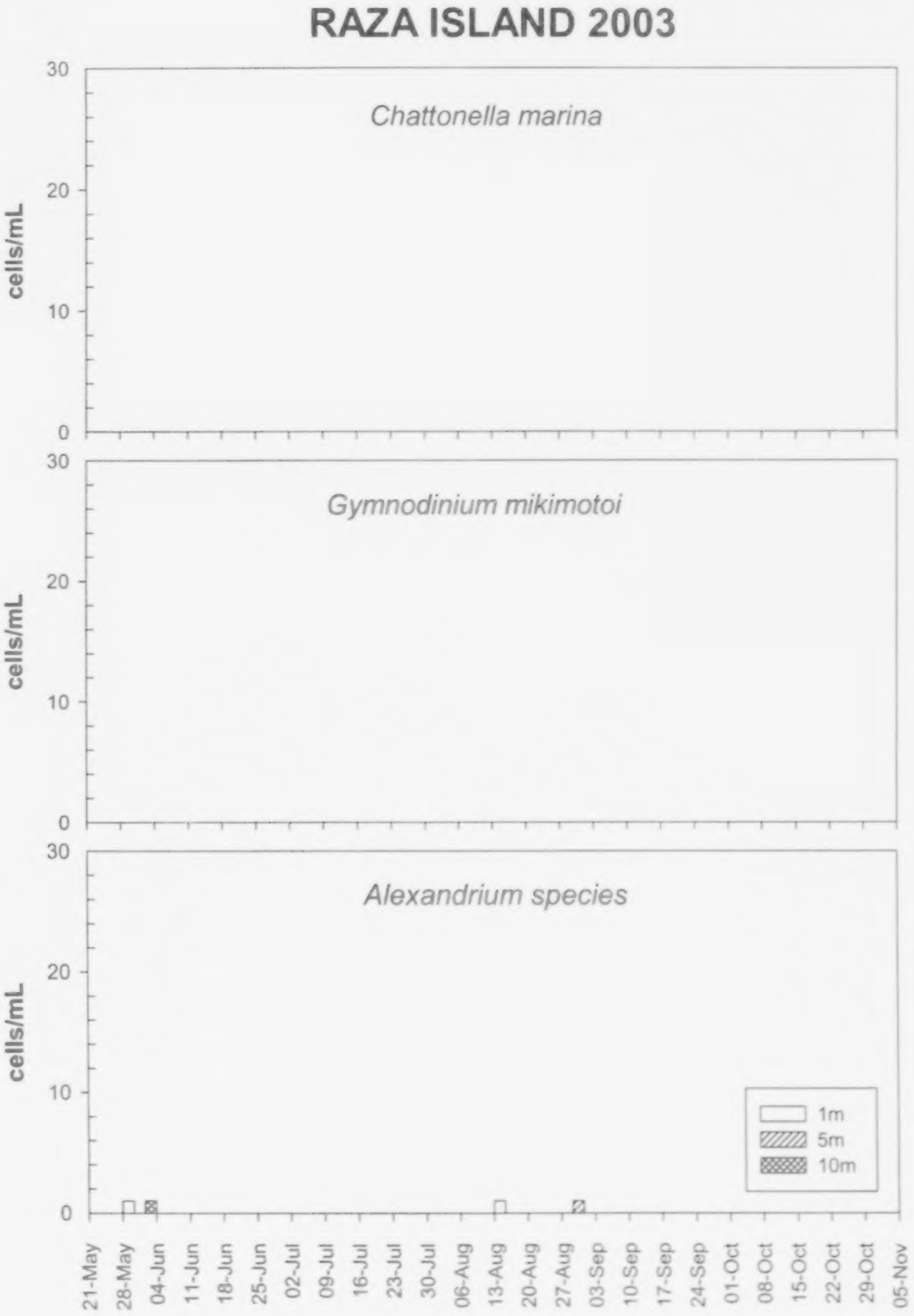


Figure 7: Harmful phytoplankton species in Raza Island samples.

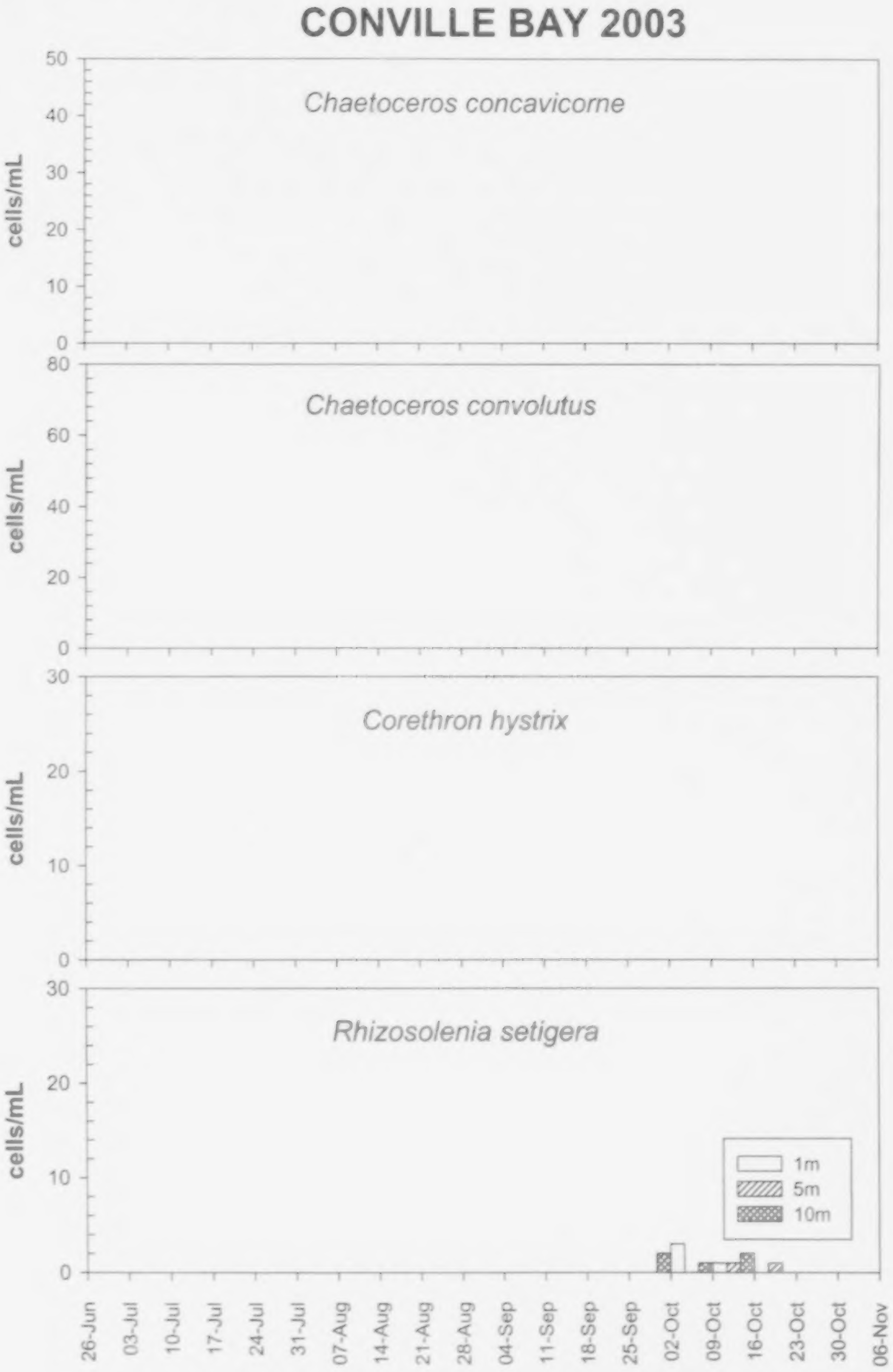


Figure 8: Harmful phytoplankton species in Conville Bay samples.

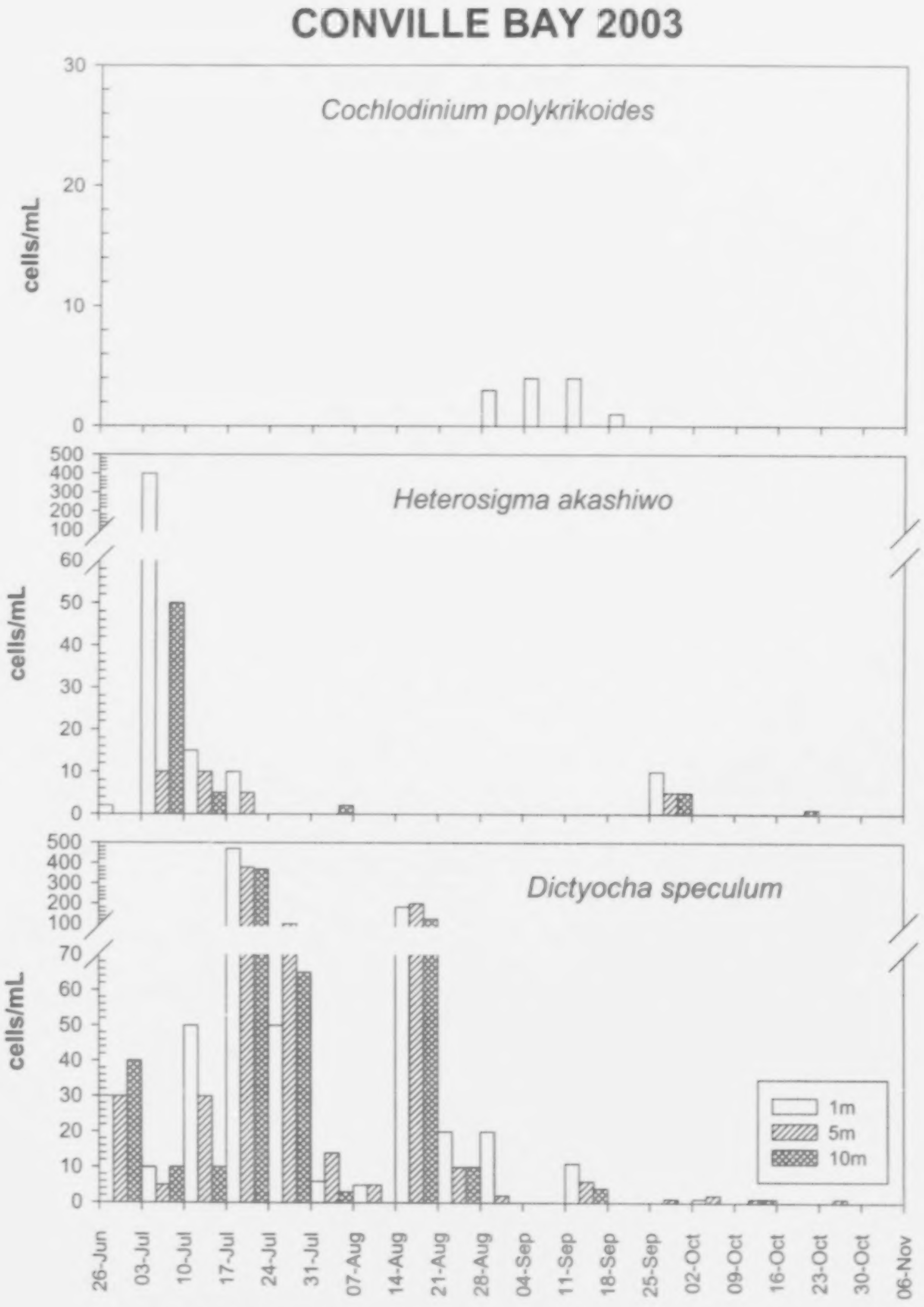


Figure 9: Harmful phytoplankton species in Conville Bay samples.

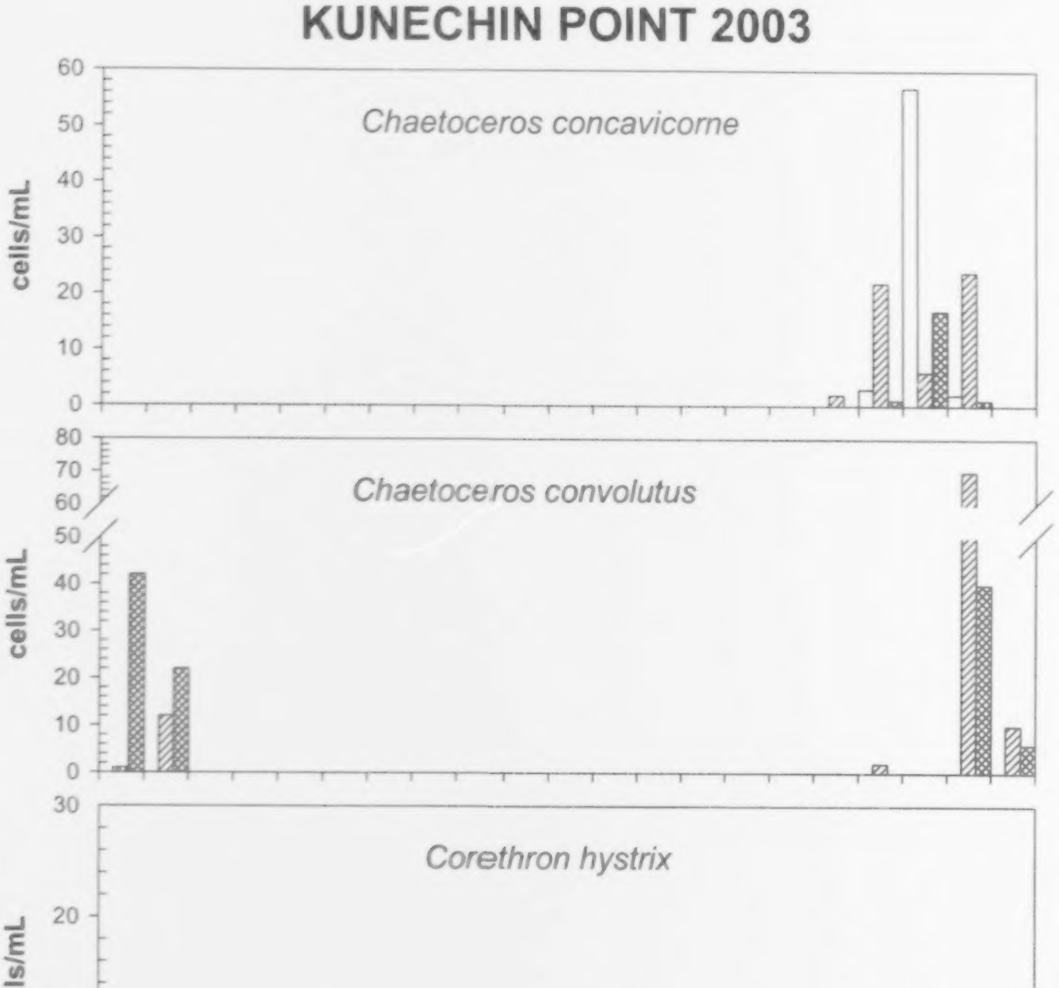


Figure 10: Harmful phytoplankton species in Kunechin Point samples.

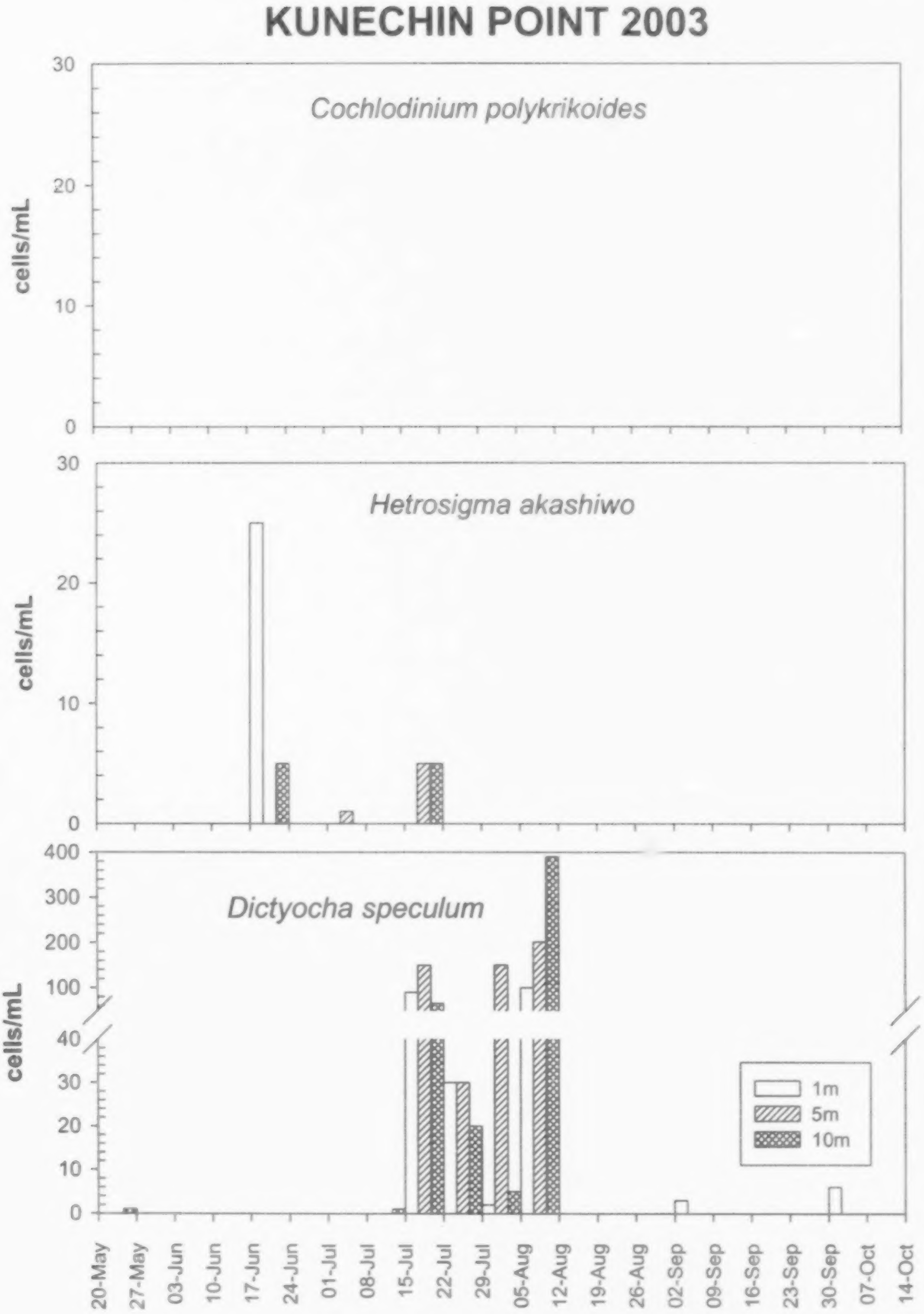


Figure 11: Harmful phytoplankton species in Kunechin Point samples.

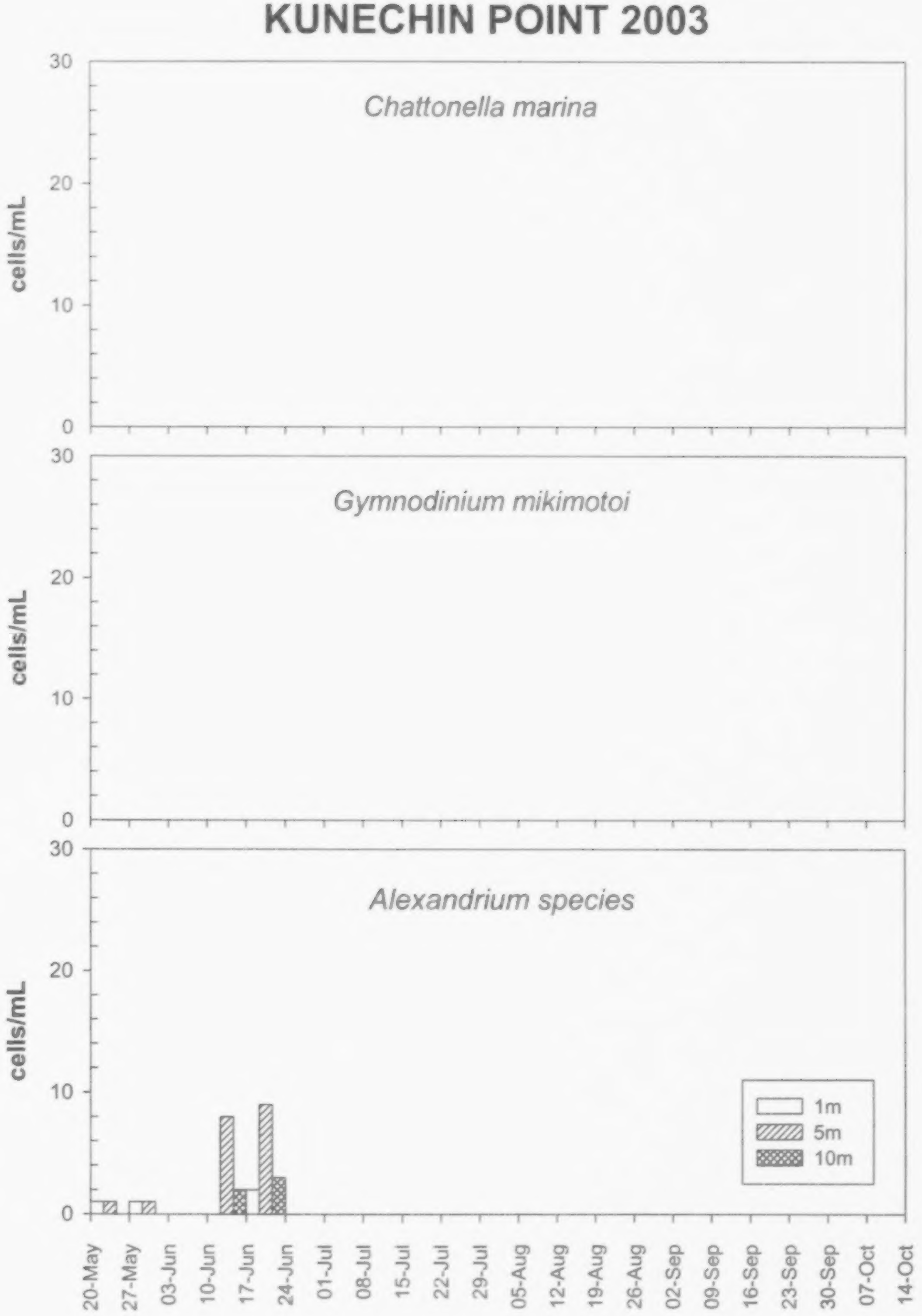


Figure 12: Harmful phytoplankton species in Kunechin Point samples.

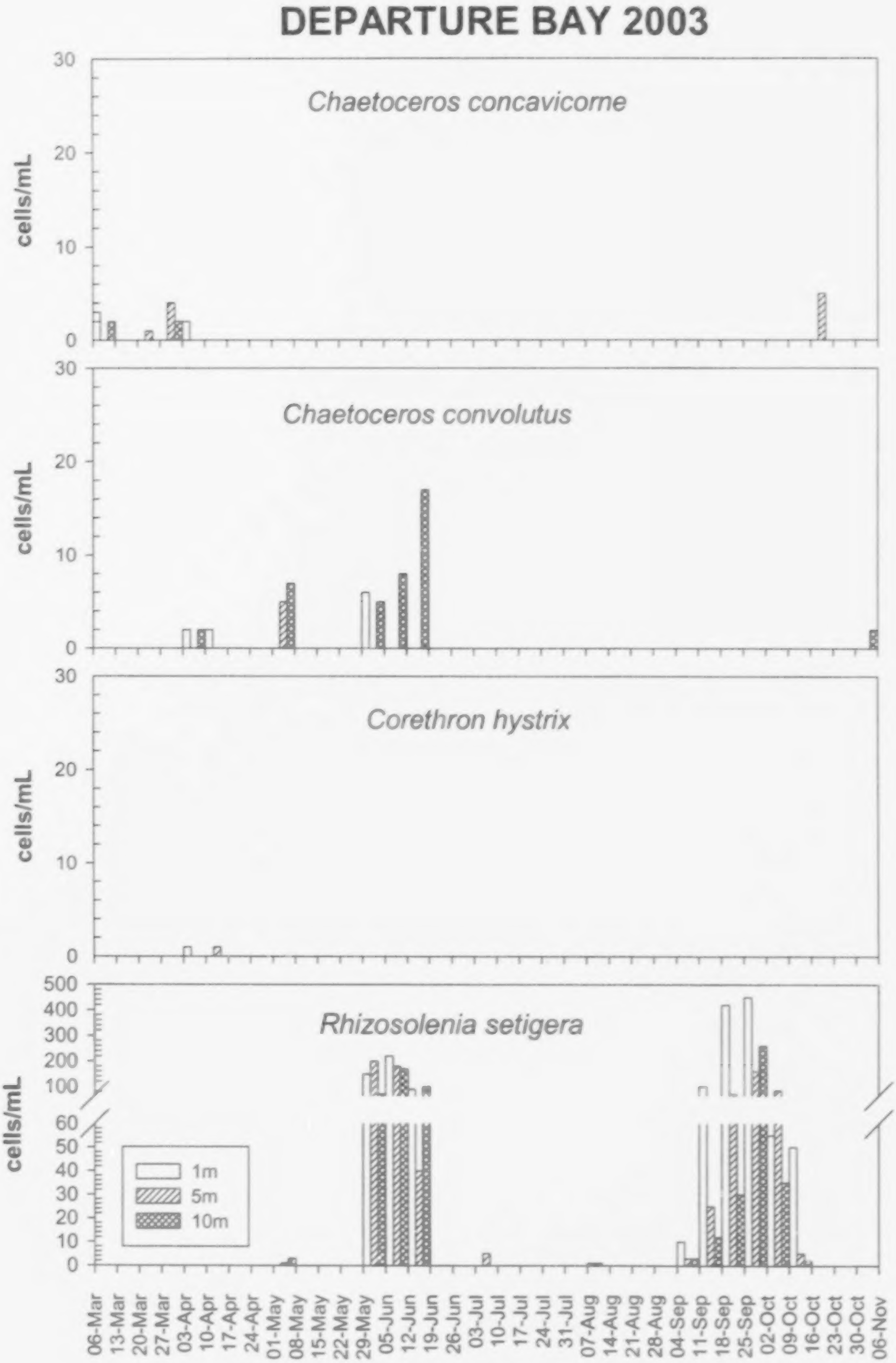


Figure 13: Harmful phytoplankton species in Departure Bay samples.

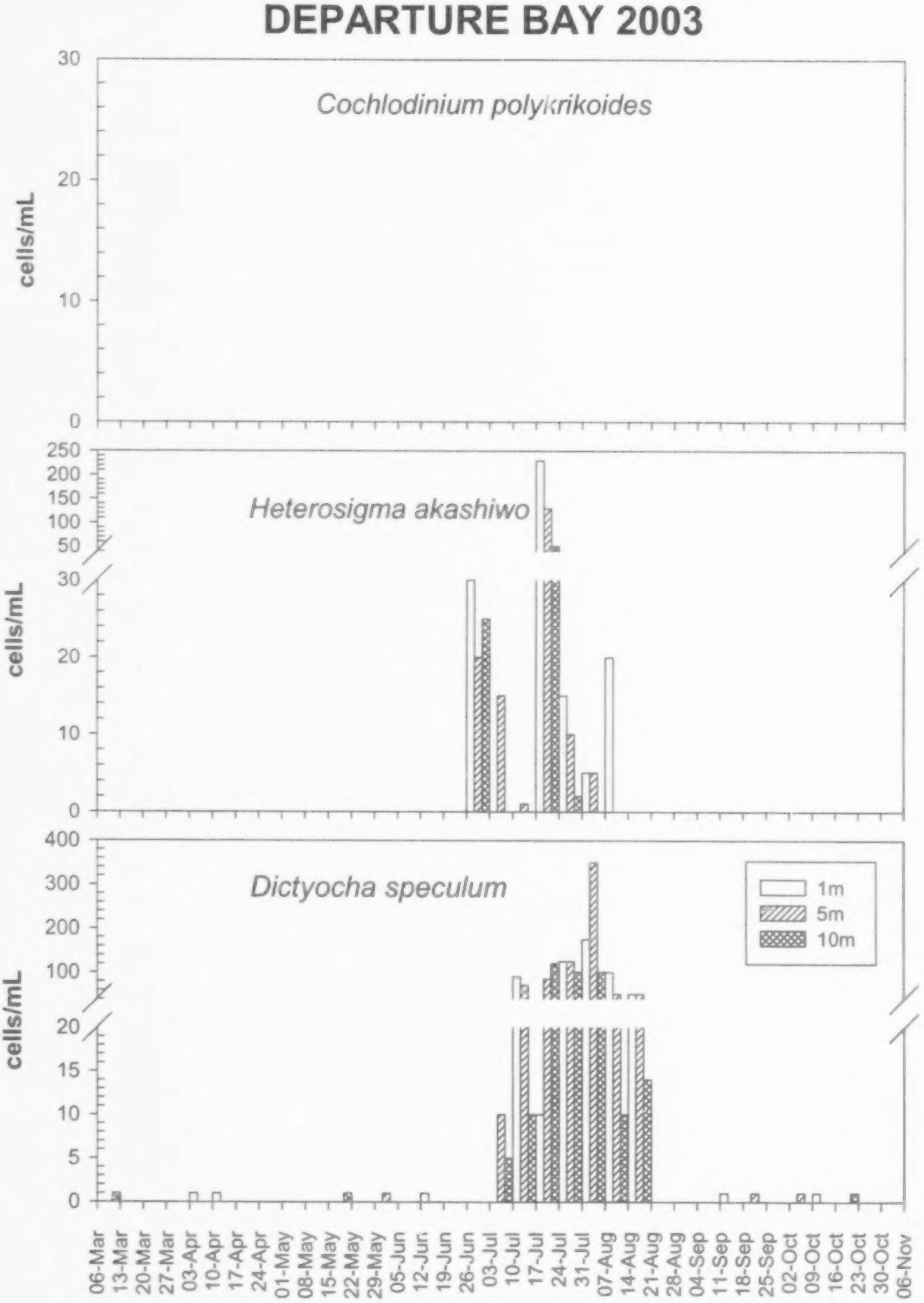


Figure 14: Harmful phytoplankton species in Departure Bay samples.

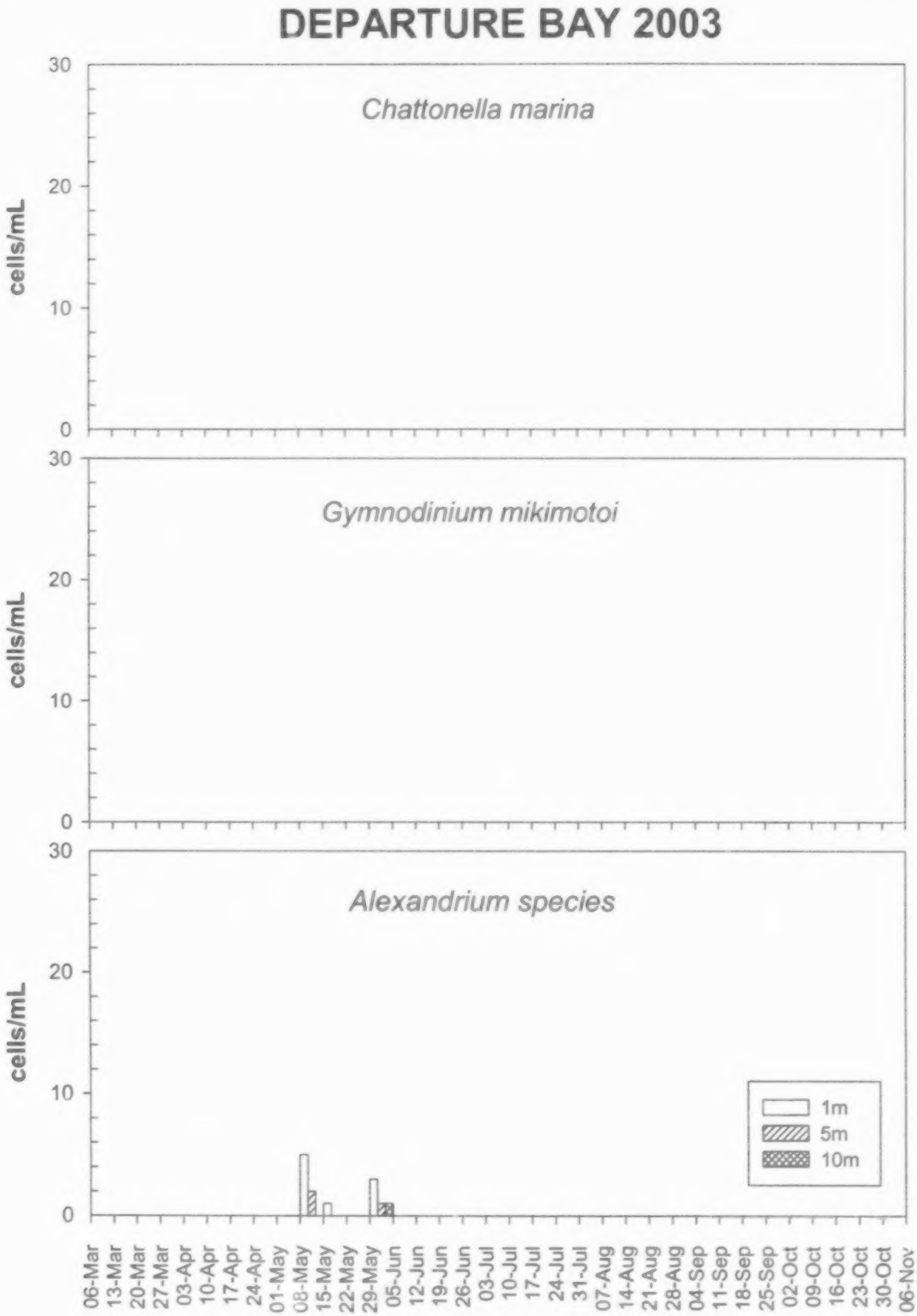


Figure 15: Harmful phytoplankton species in Departure Bay samples.

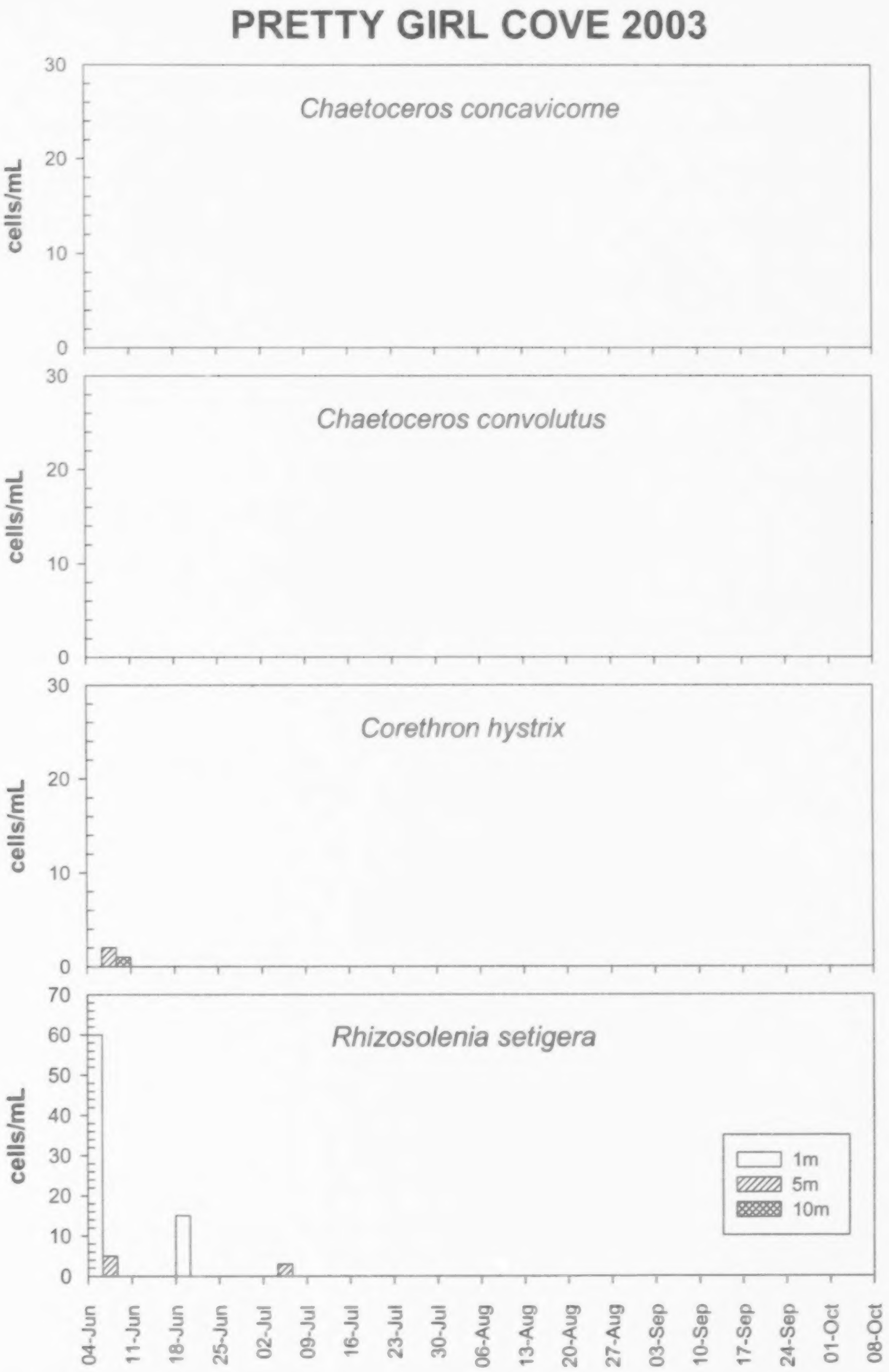


Figure 16: Harmful phytoplankton species in Pretty Girl Cove samples.

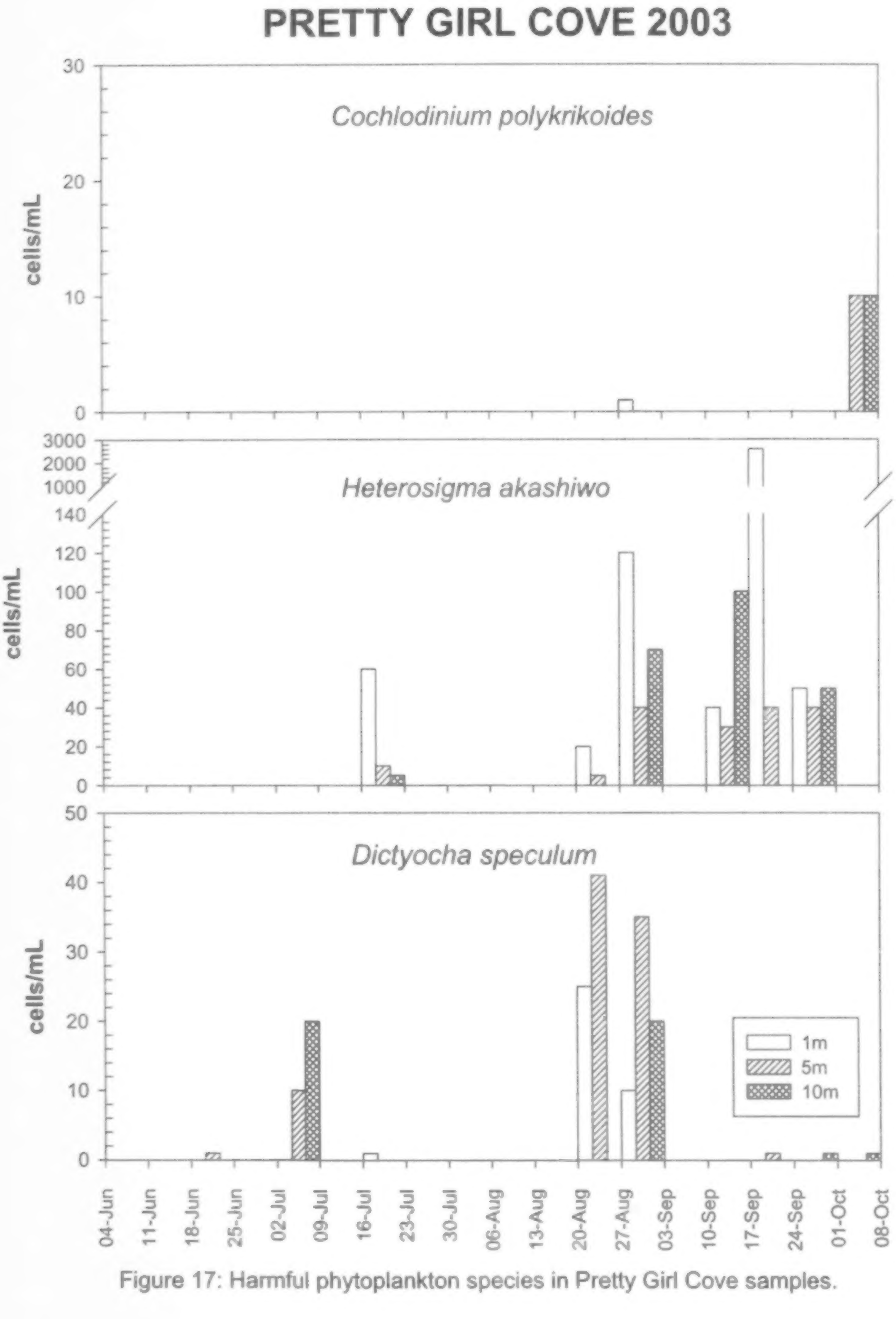


Figure 17: Harmful phytoplankton species in Pretty Girl Cove samples.

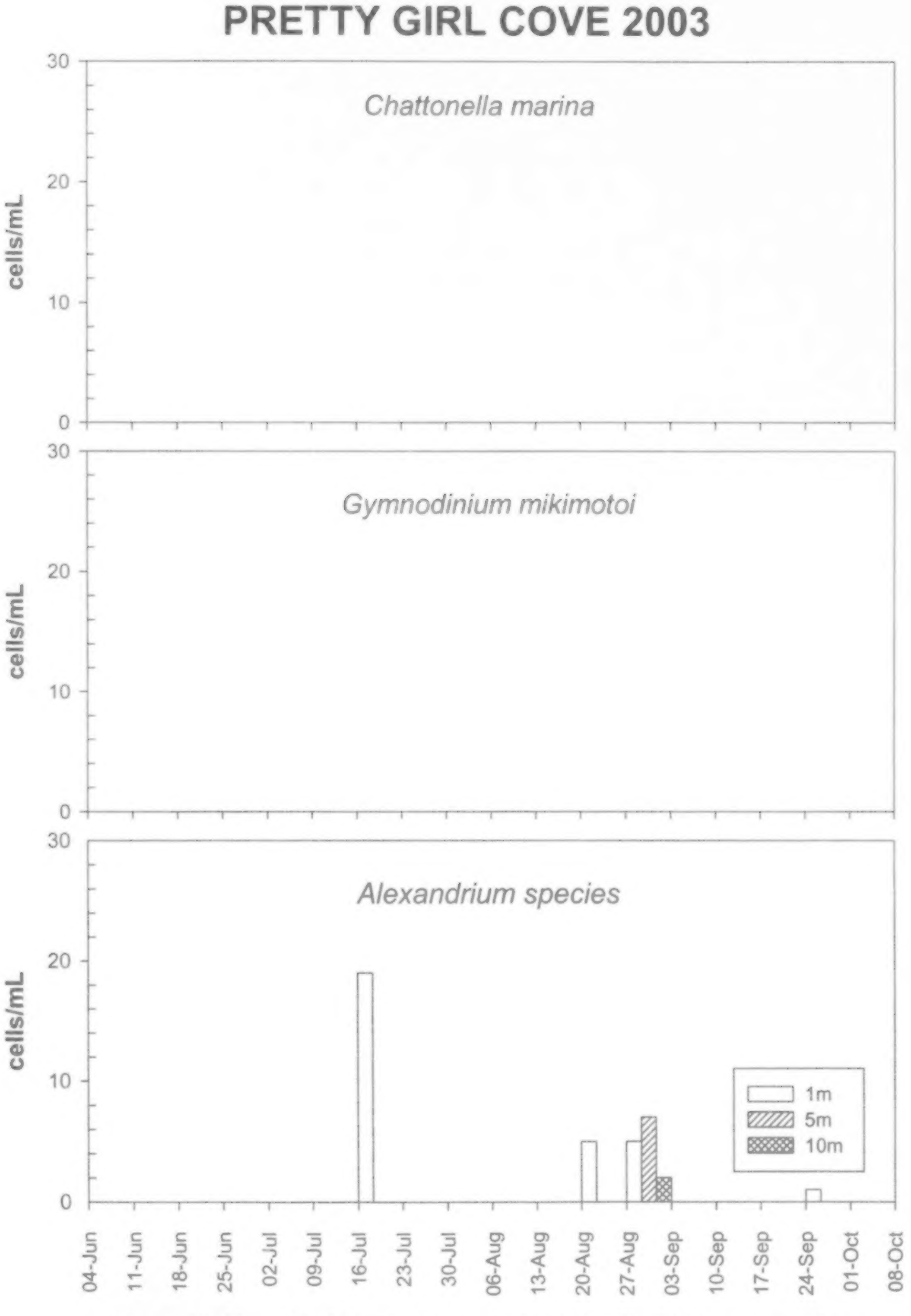


Figure 18: Harmful phytoplankton species in Pretty Girl Cove samples.

BACCHANTE BAY 2003

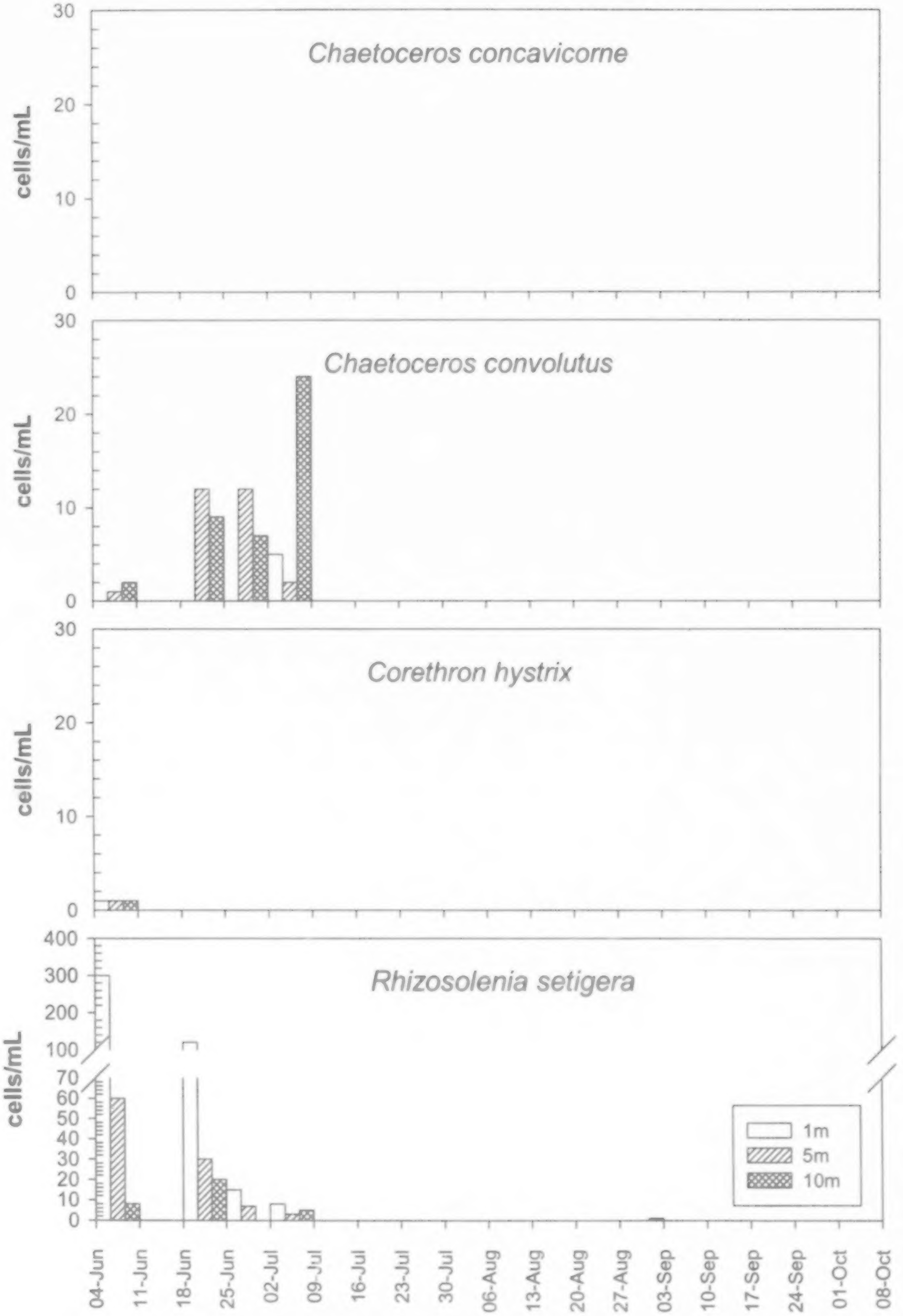


Figure 19: Harmful phytoplankton species in Bacchante Bay samples.

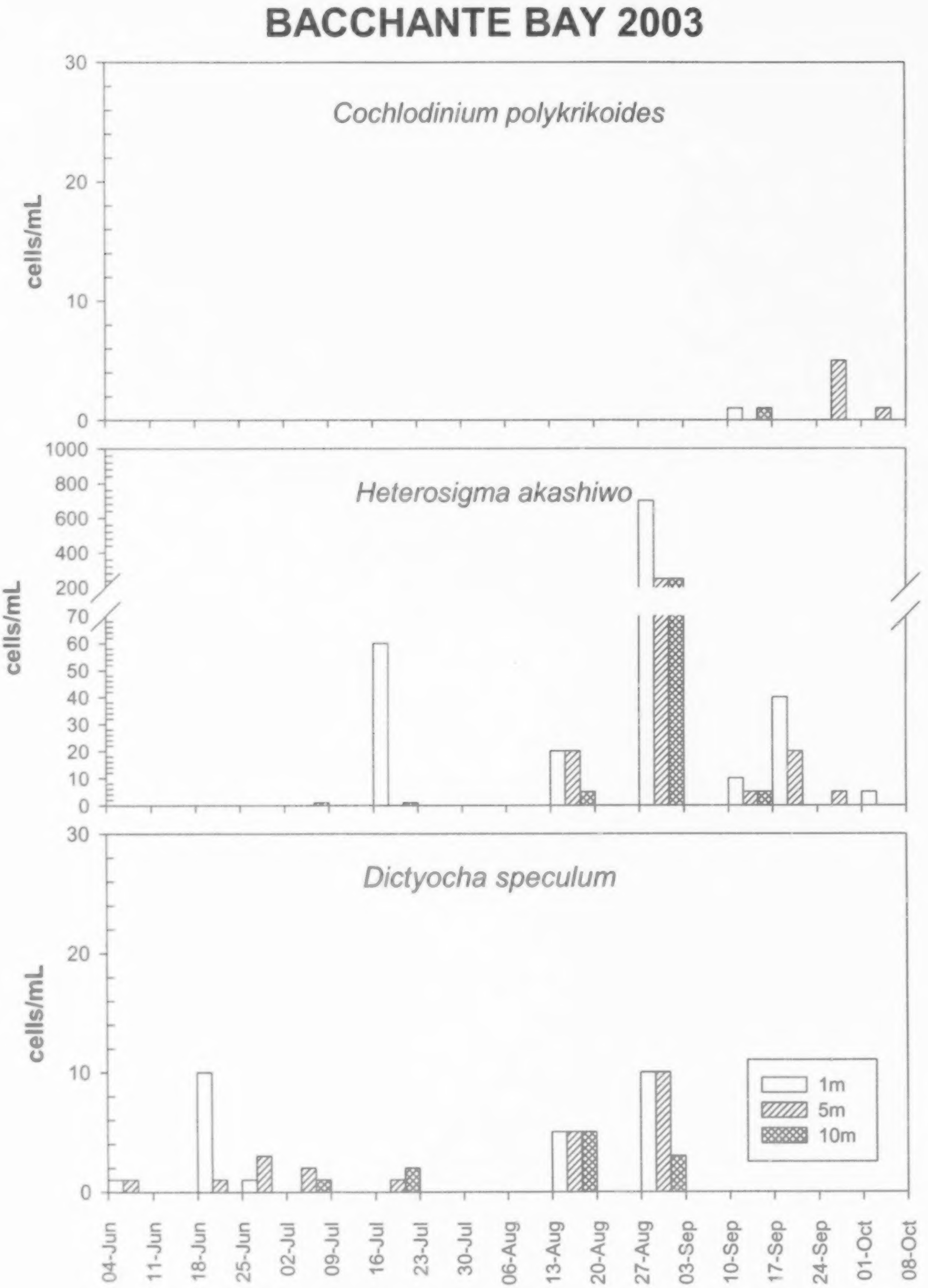


Figure 20: Harmful phytoplankton species in Bacchante Bay samples.

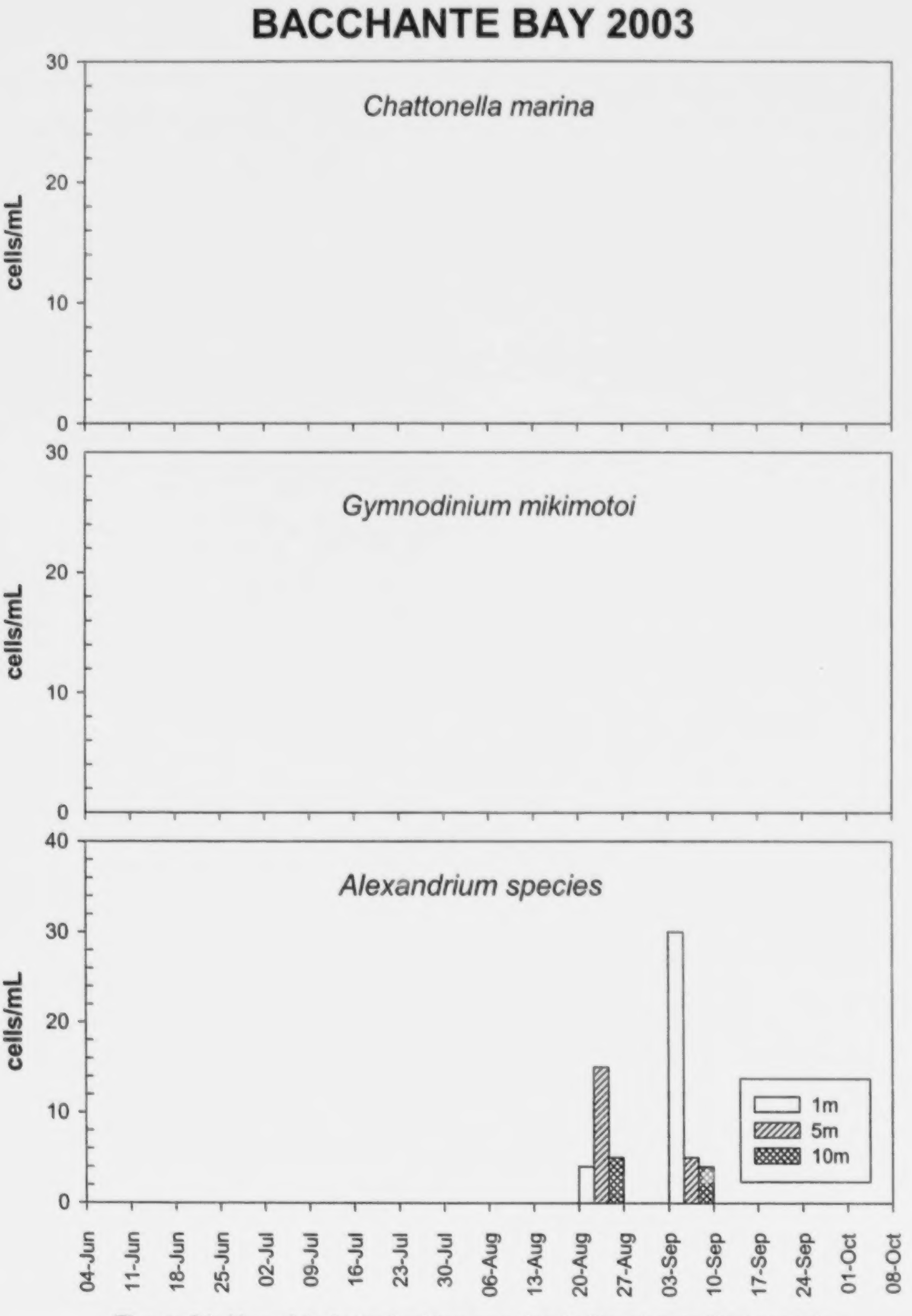


Figure 21: Harmful phytoplankton species in Bacchante Bay samples.

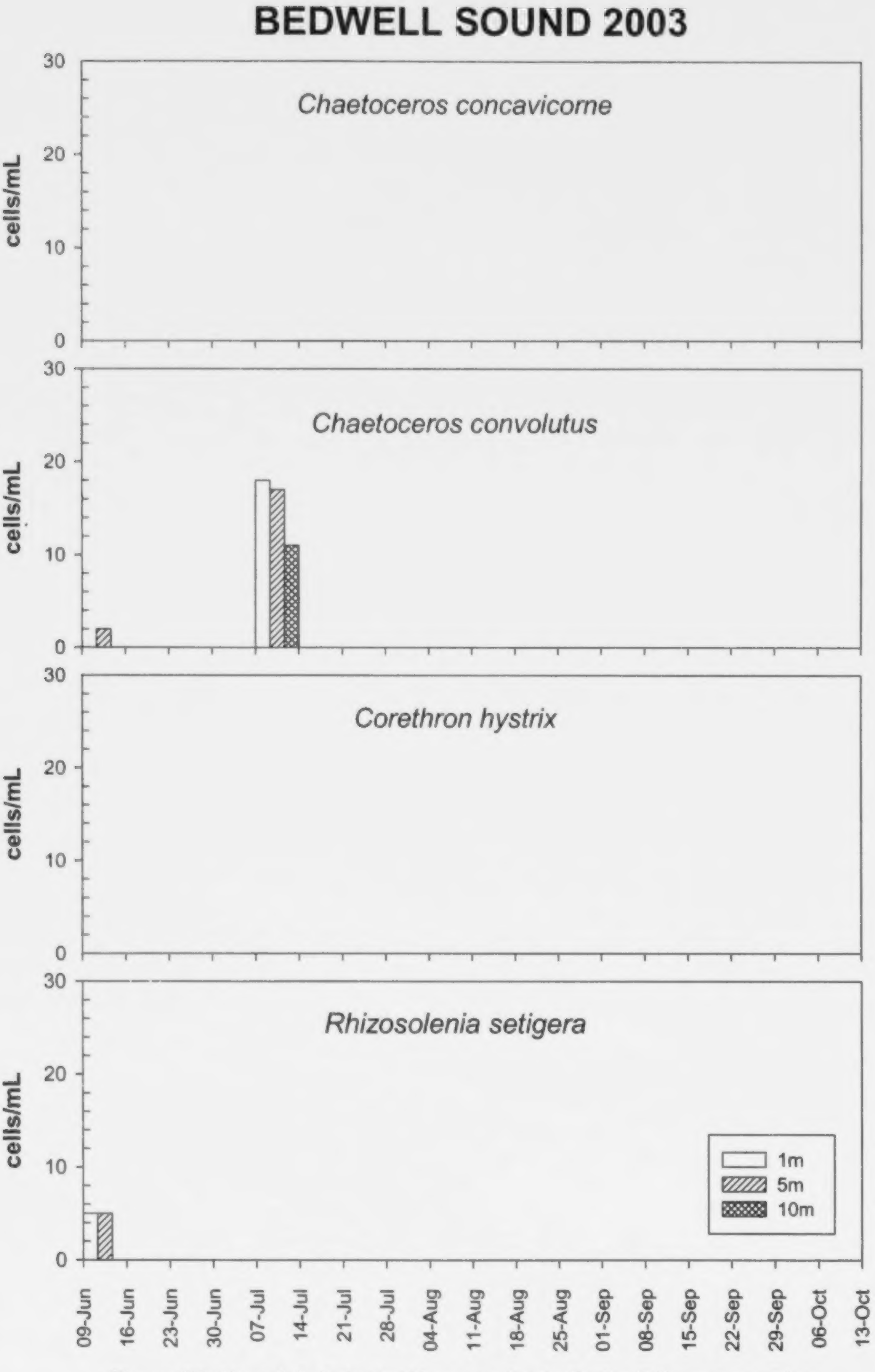


Figure 22: Harmful phytoplankton species in Bedwell Sound samples.

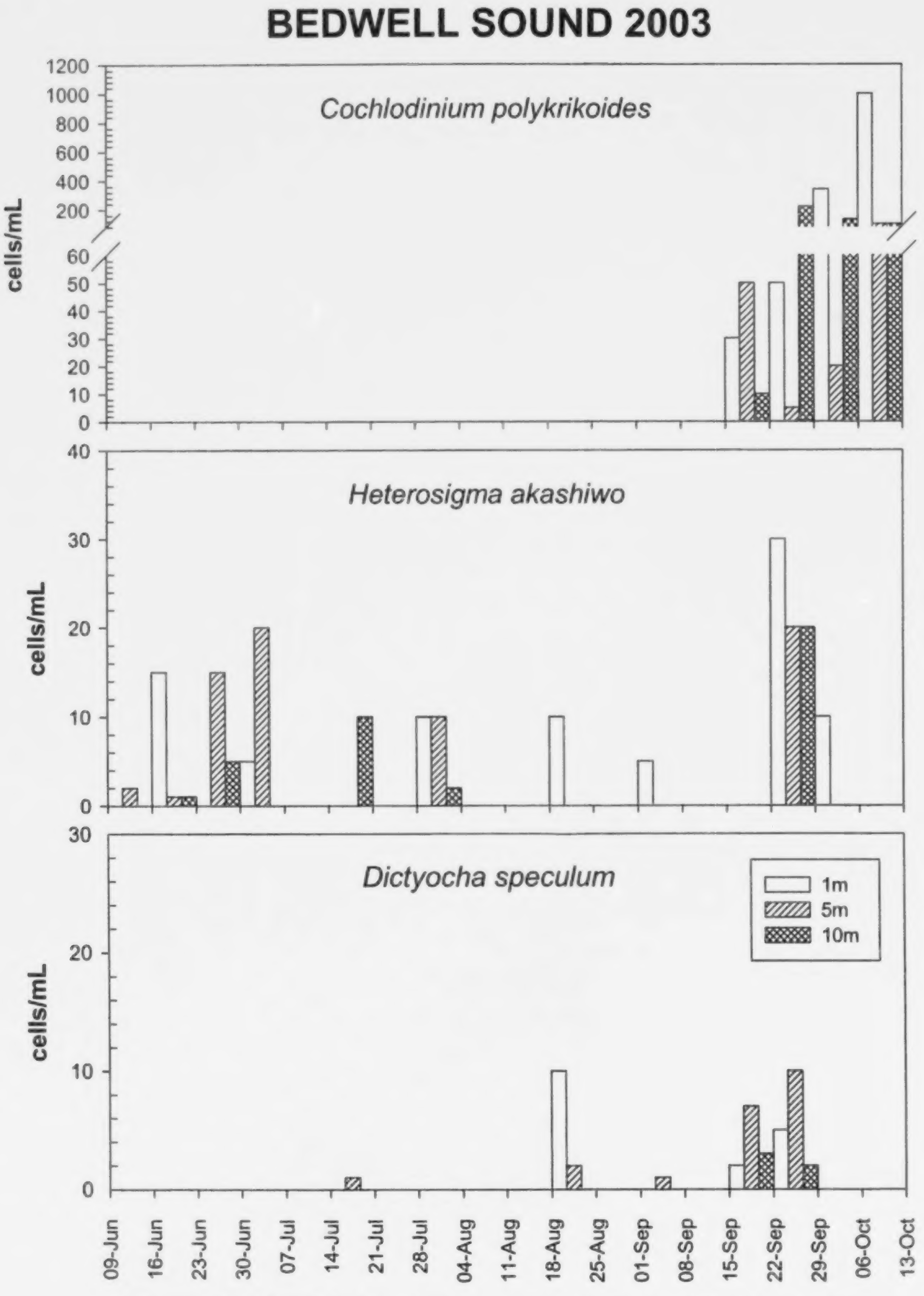


Figure 23: Harmful phytoplankton species in Bedwell Sound samples.

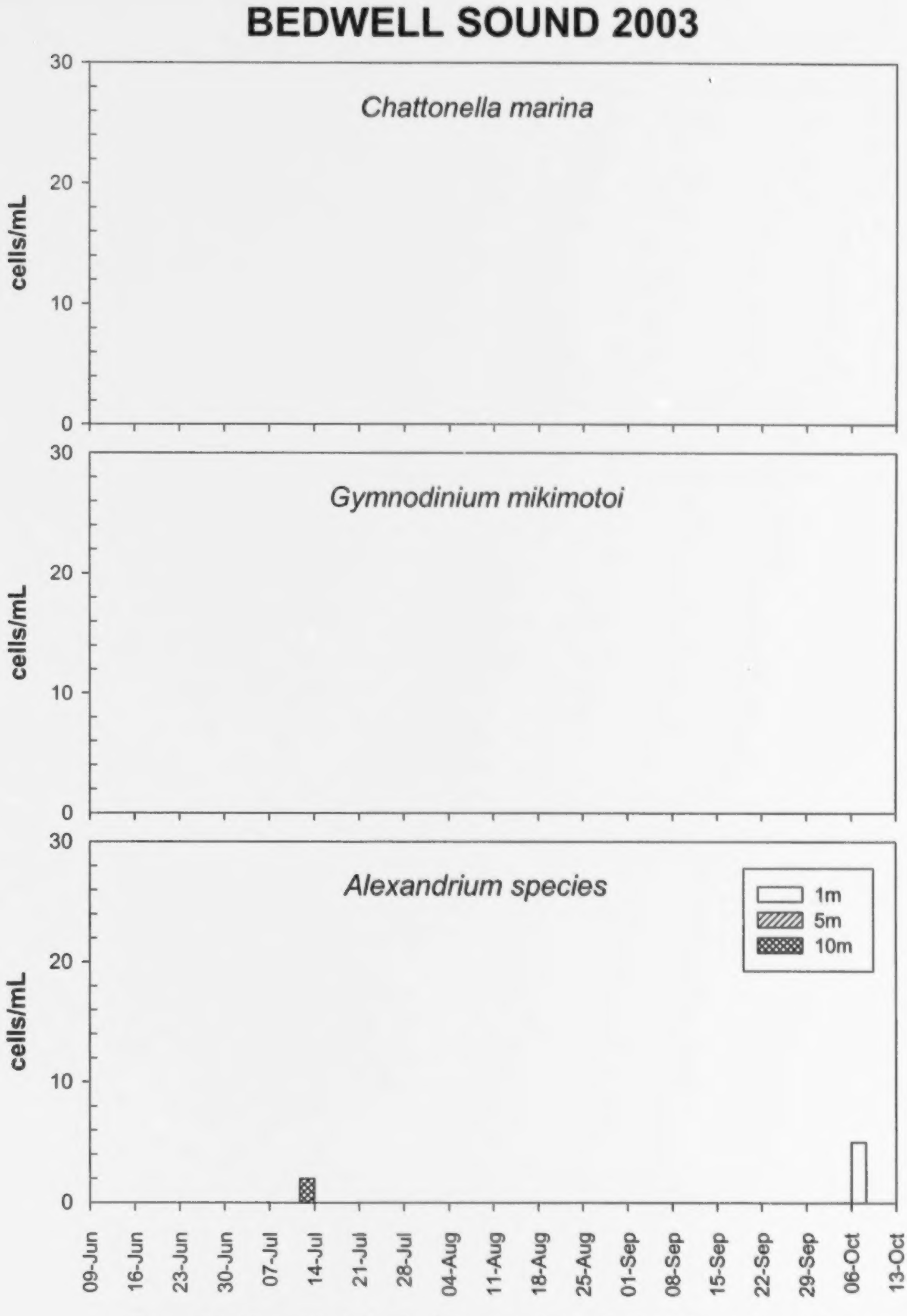


Figure 24: Harmful phytoplankton species in Bedwell Sound samples.

INDIAN BAY 2003

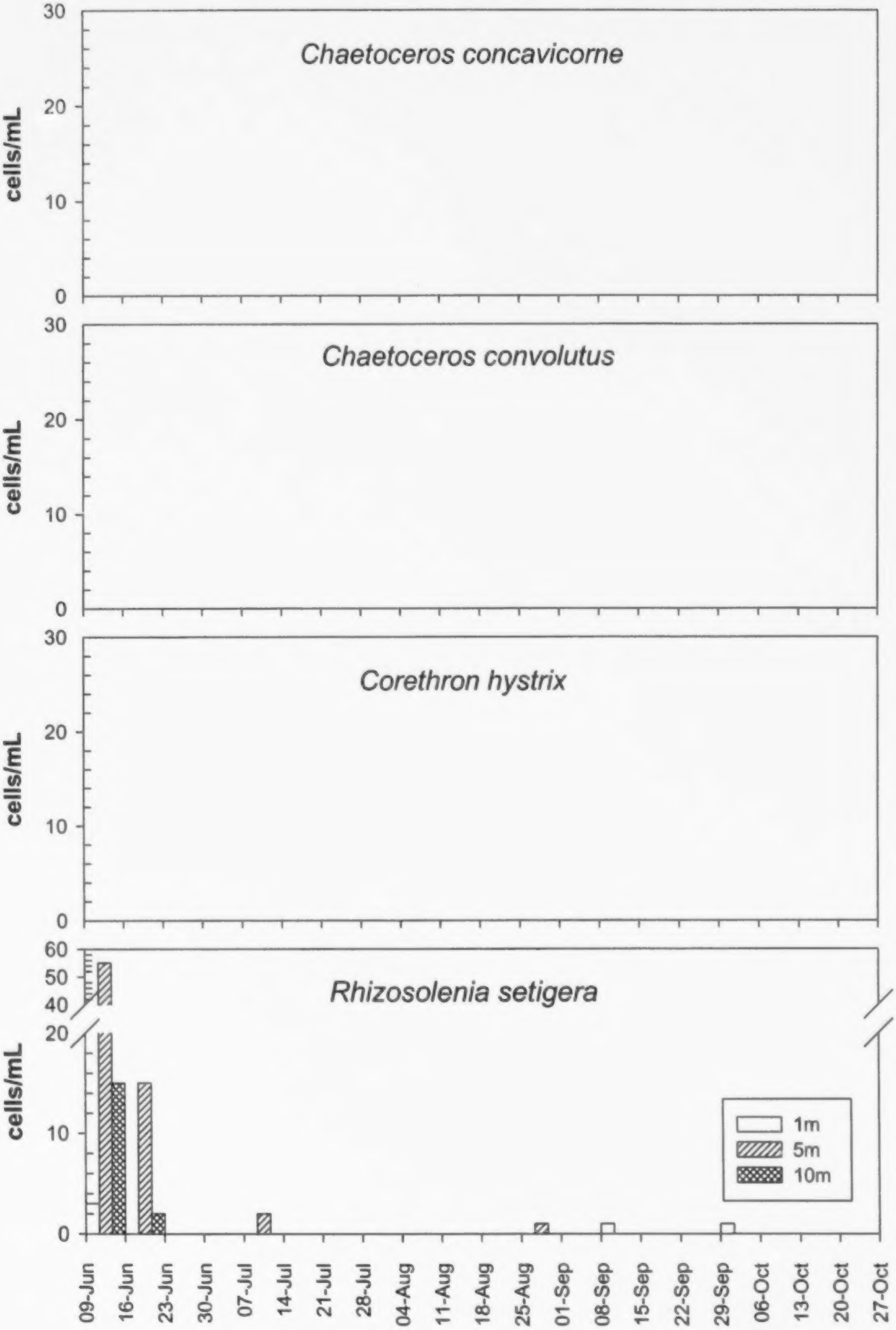


Figure 25: Harmful phytoplankton species in Indian Bay samples.

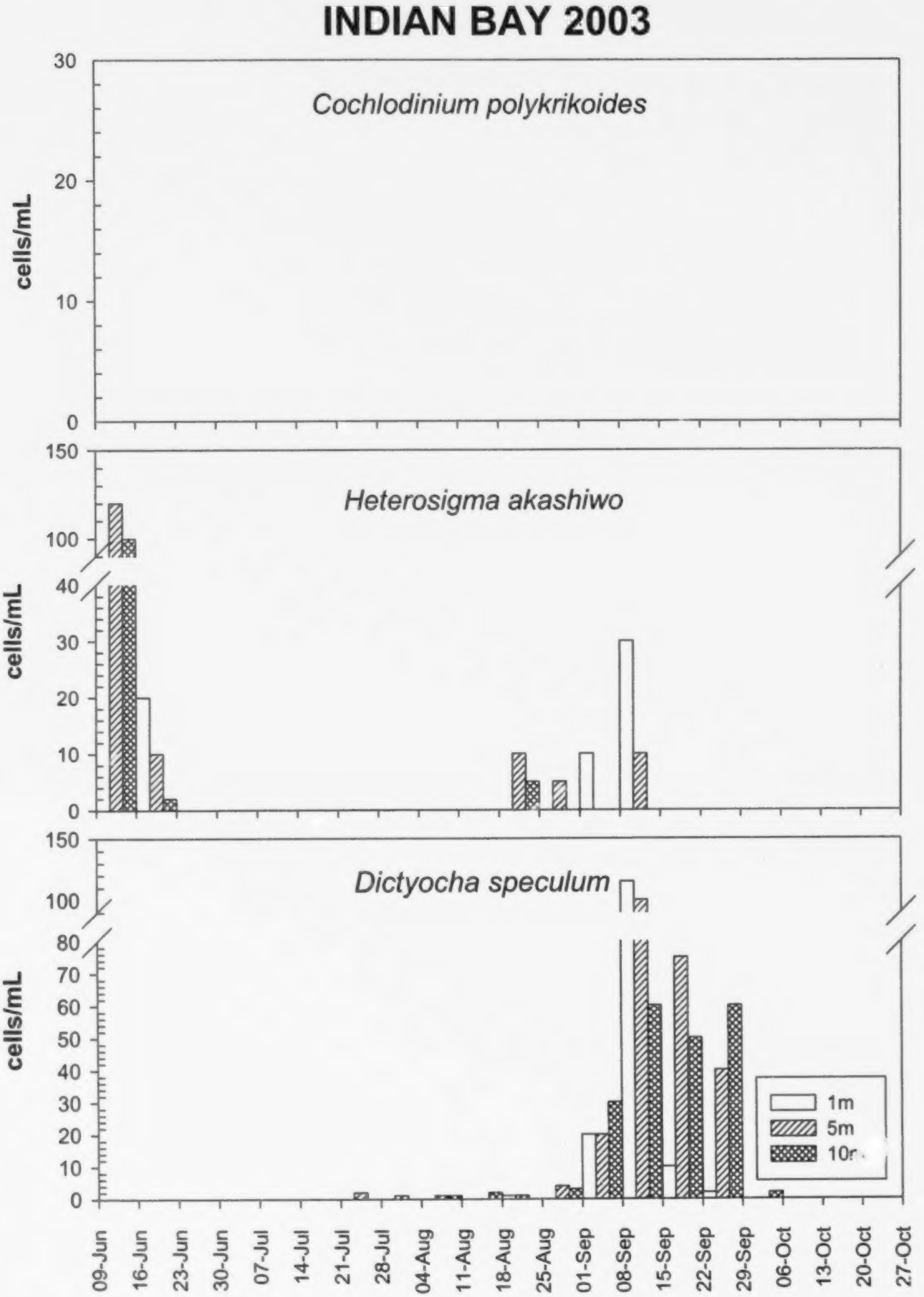


Figure 26: Harmful phytoplankton species in Indian Bay samples.

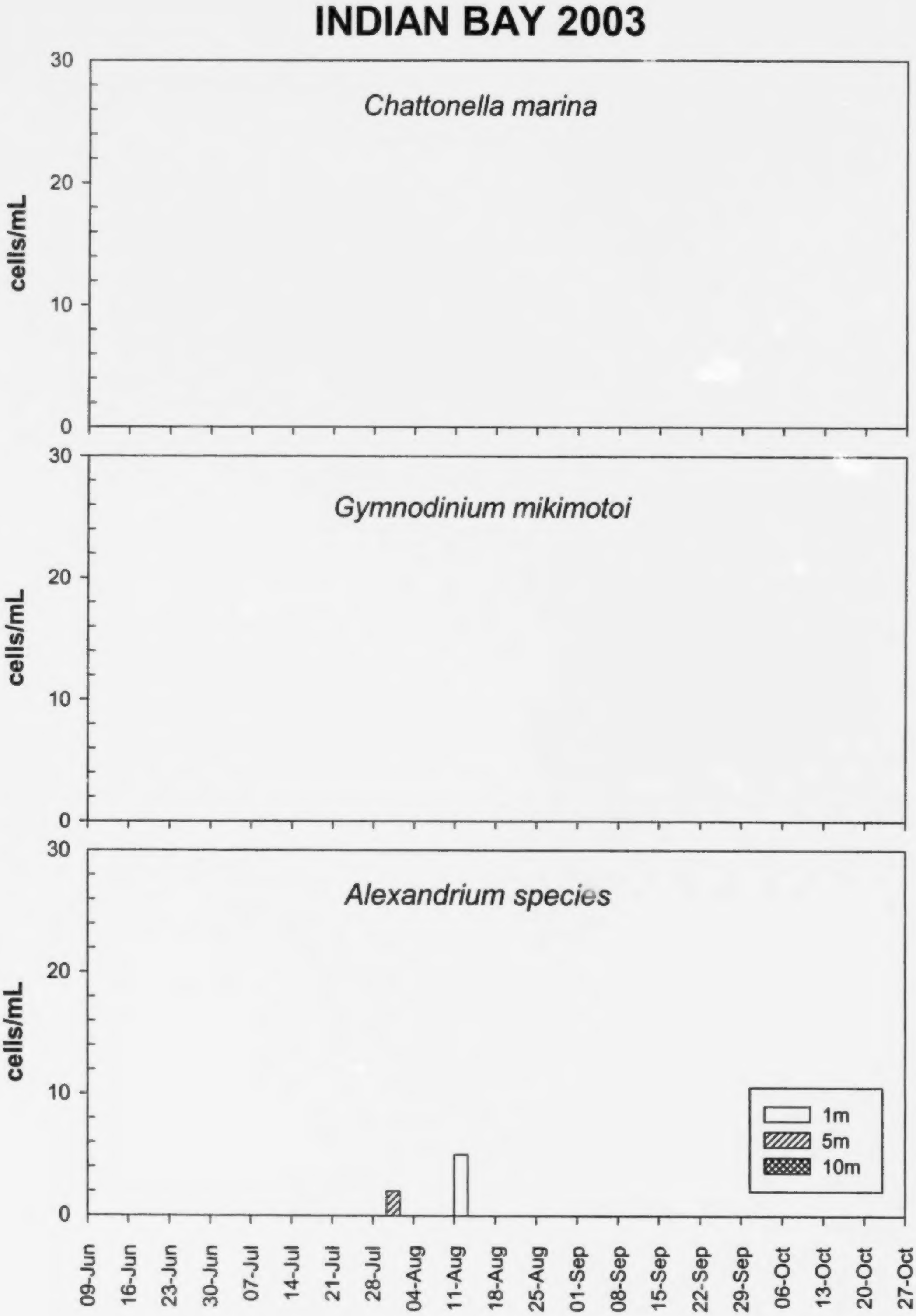


Figure 27: Harmful phytoplankton species in Indian Bay samples.

STEAMER POINT 2003

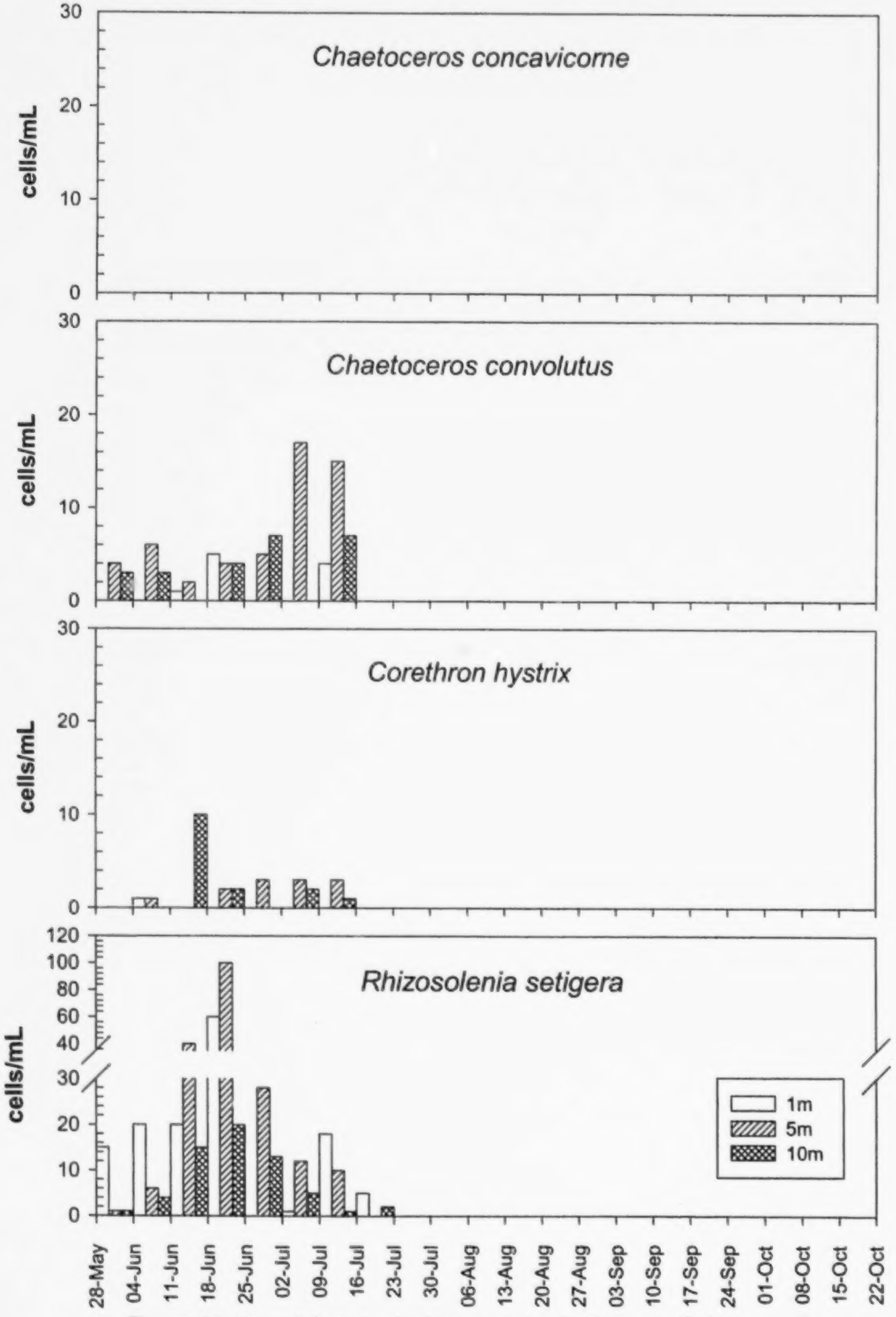
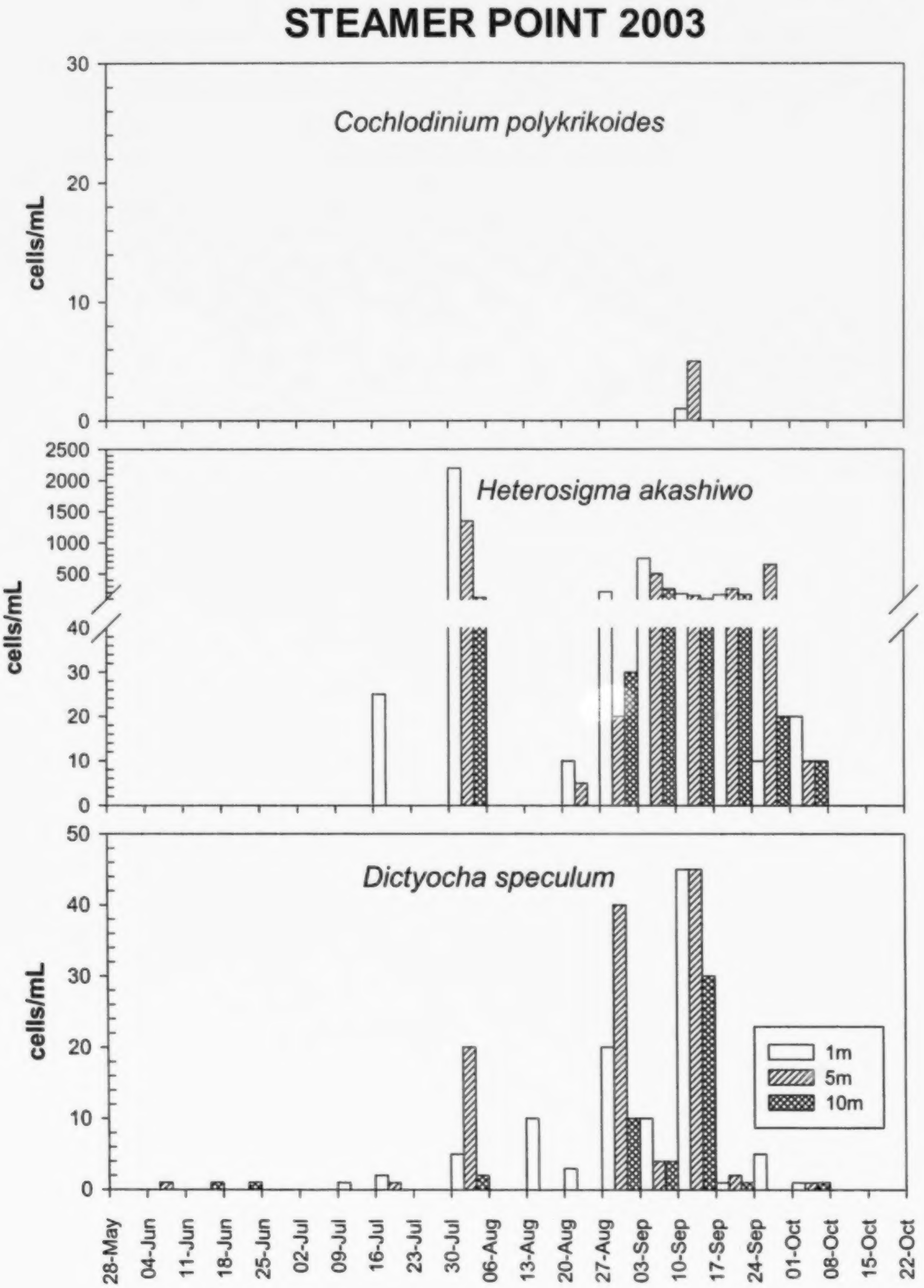


Figure 28: Harmful phytoplankton species in Steamer Point samples.



STEAMER POINT 2003

Cochlodinium polykrikoides

Heterosigma akashiwo

Dictyocha speculum

Figure 29: Harmful phytoplankton species in Steamer Point samples.

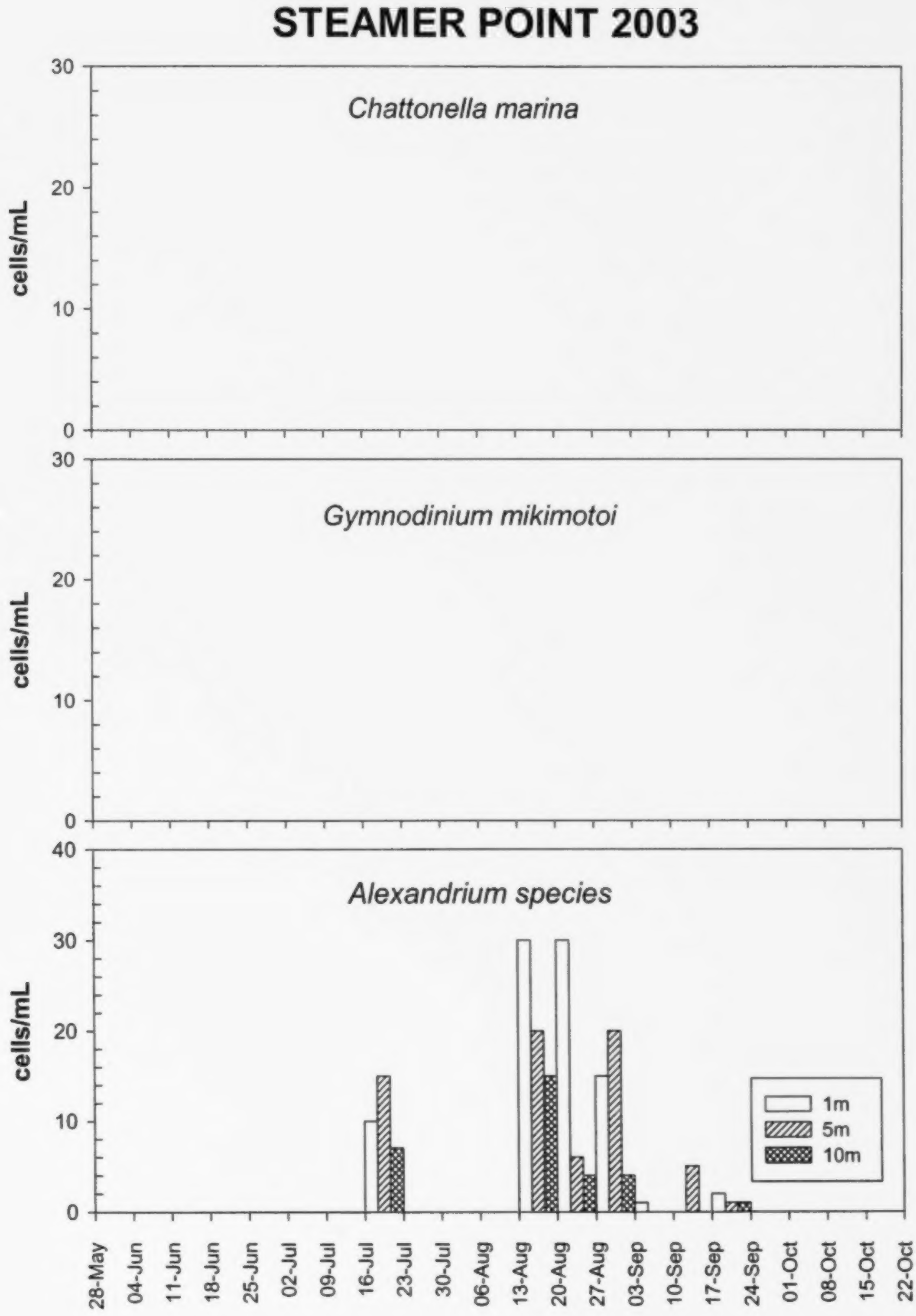


Figure 30: Harmful phytoplankton species in Steamer Point samples.

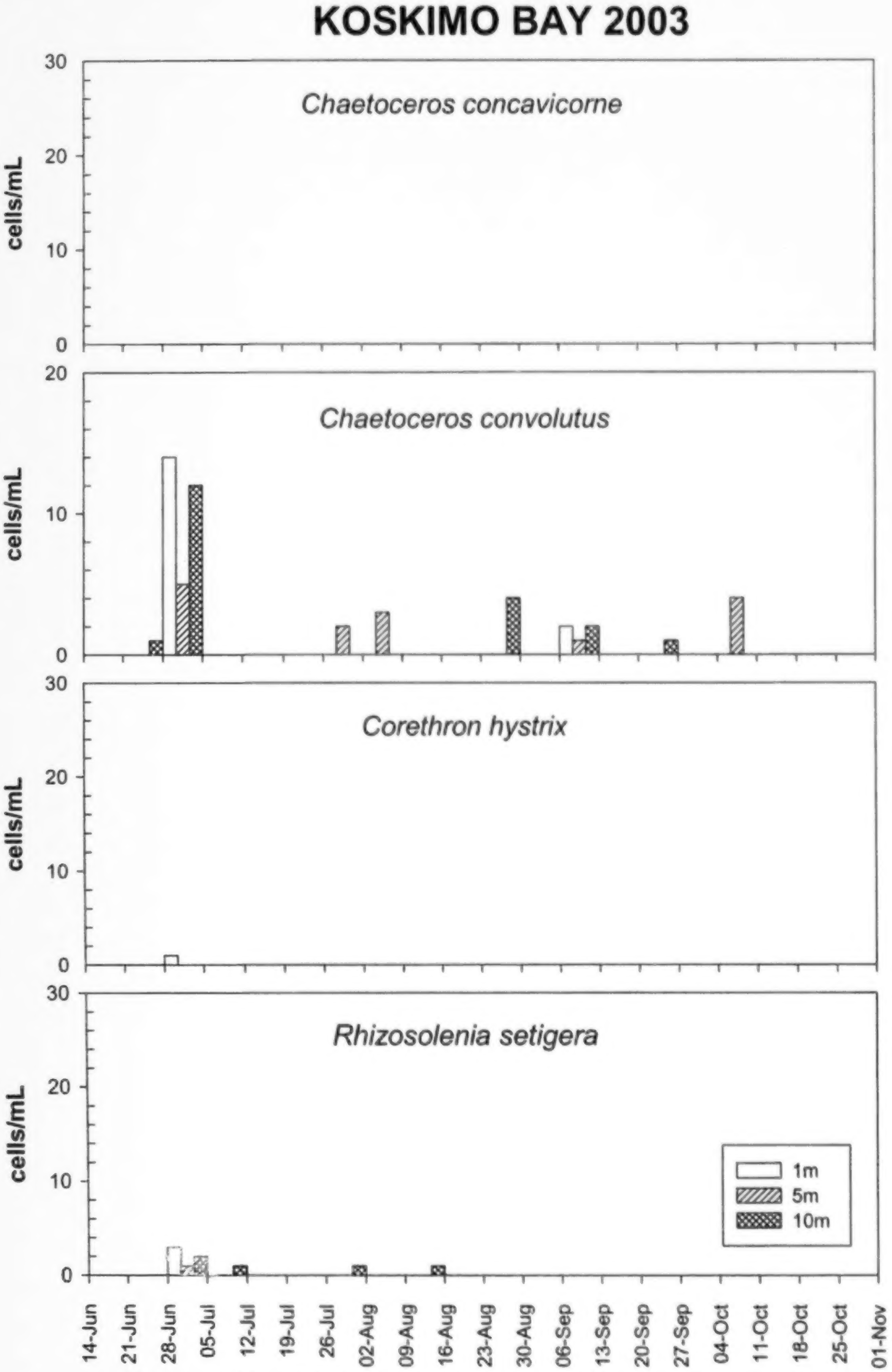


Figure 31: Harmful phytoplankton species in Koskimo Bay samples.

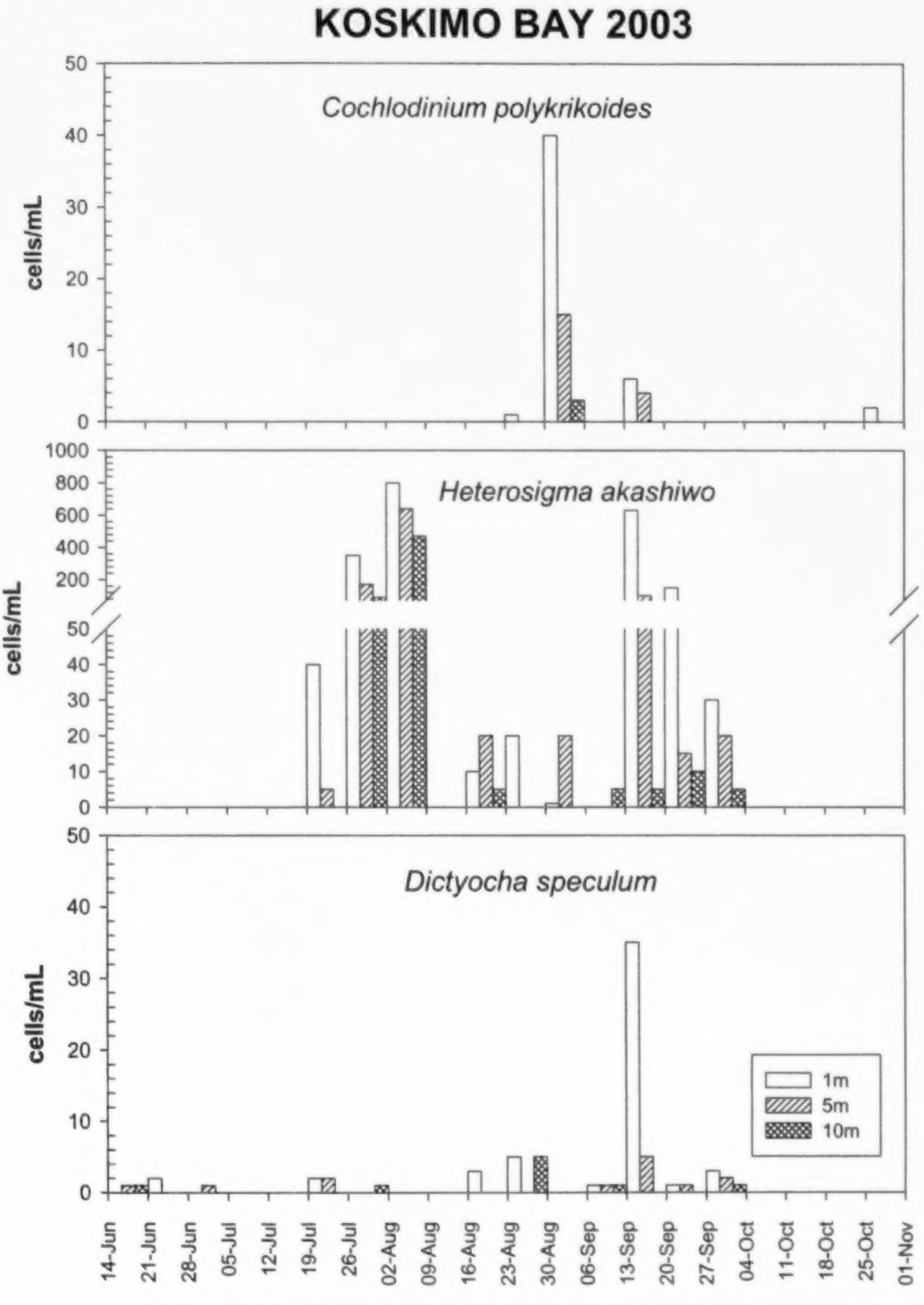


Figure 32: Harmful phytoplankton species in Koskimo Bay samples.

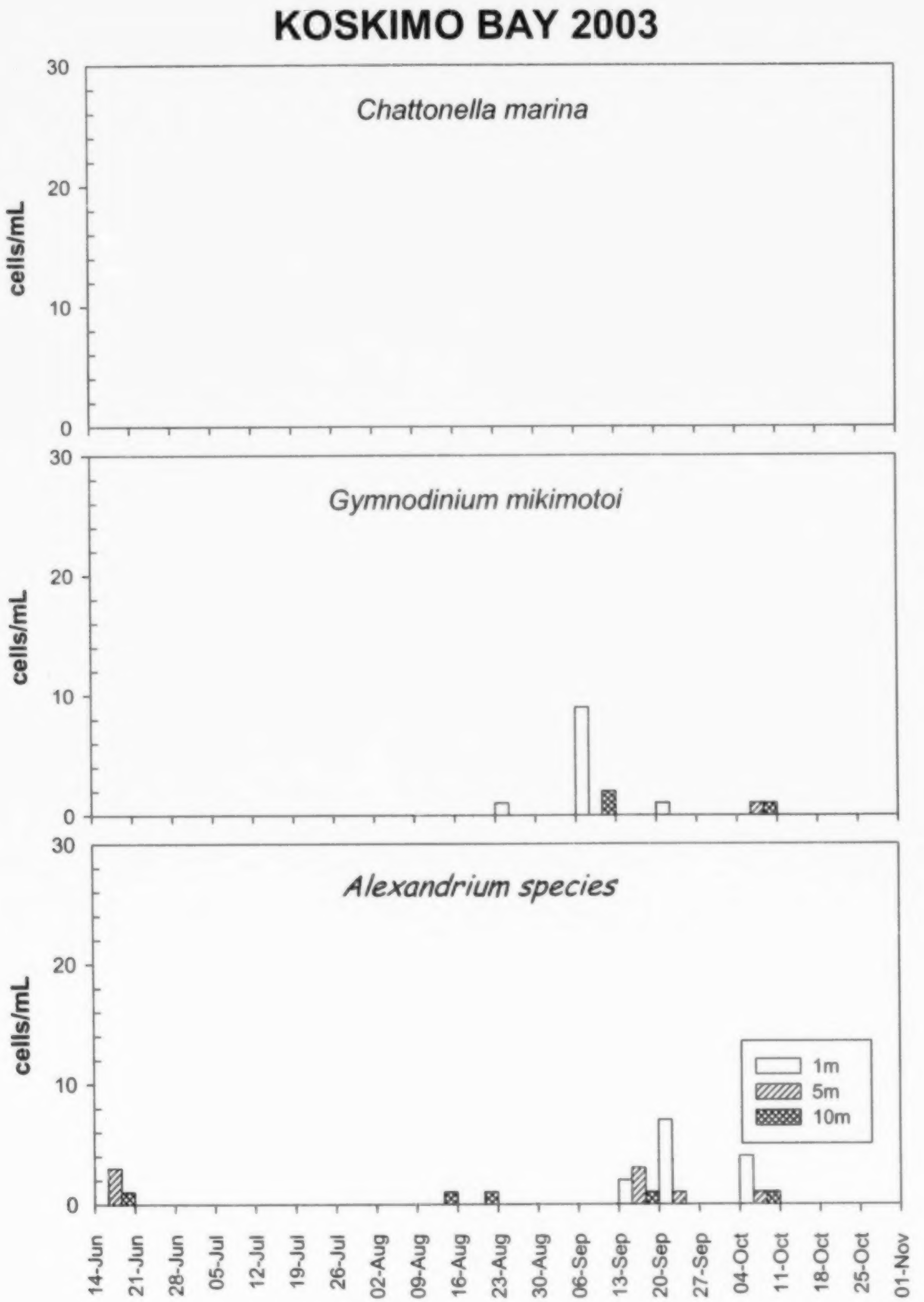


Figure 33: Harmful phytoplankton species in Koskimo Bay samples.

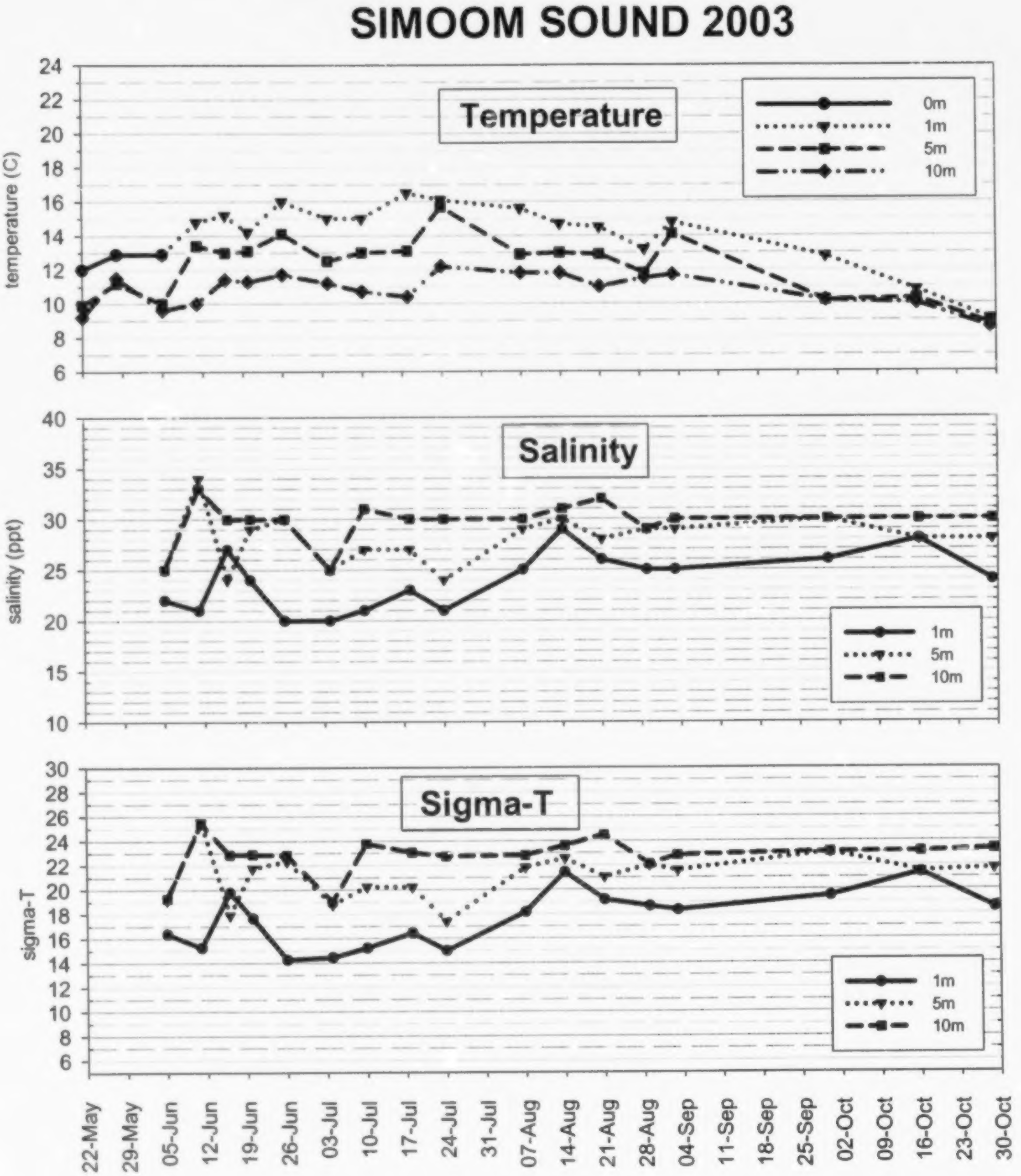


Figure 34: Environmental monitoring data for Simoom Sound.

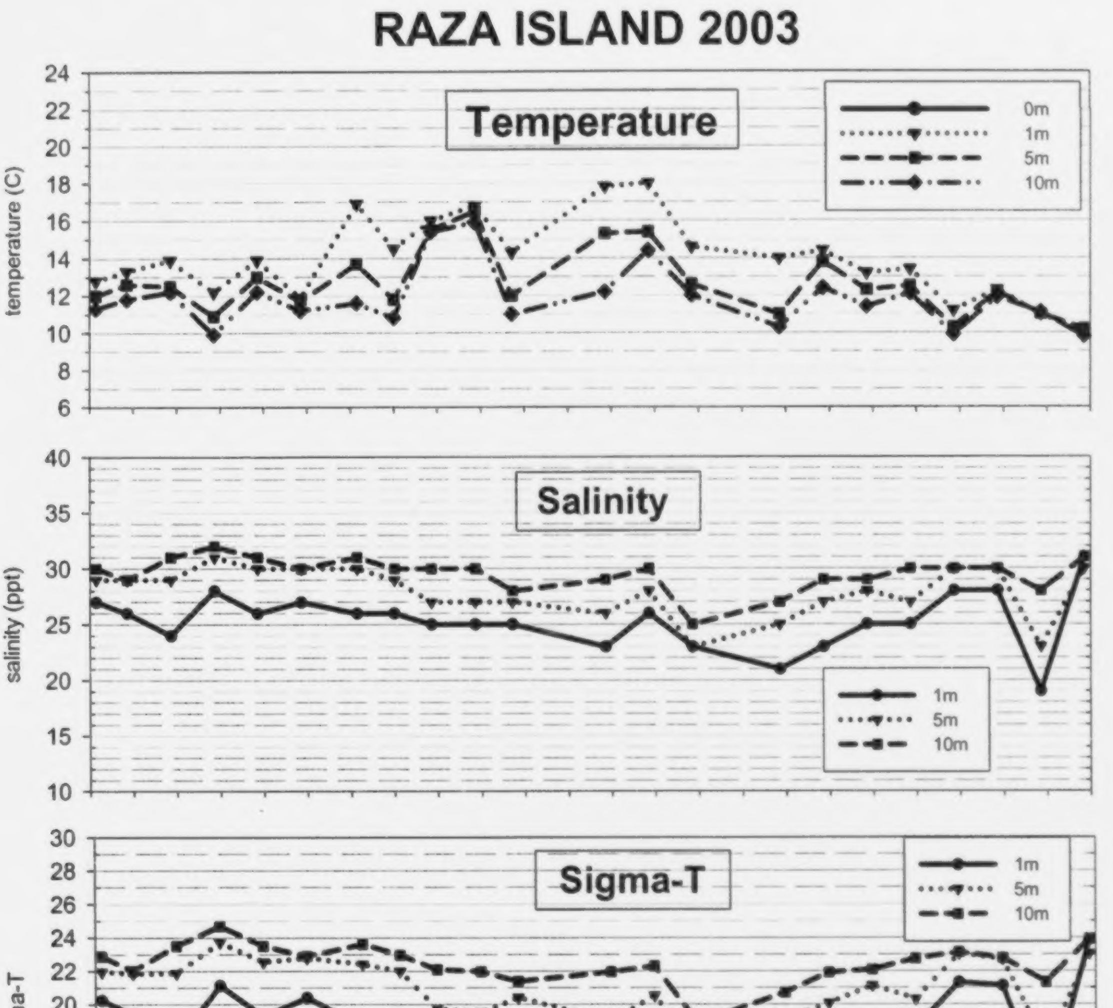


Figure 35: Environmental monitoring data for Raza Island.

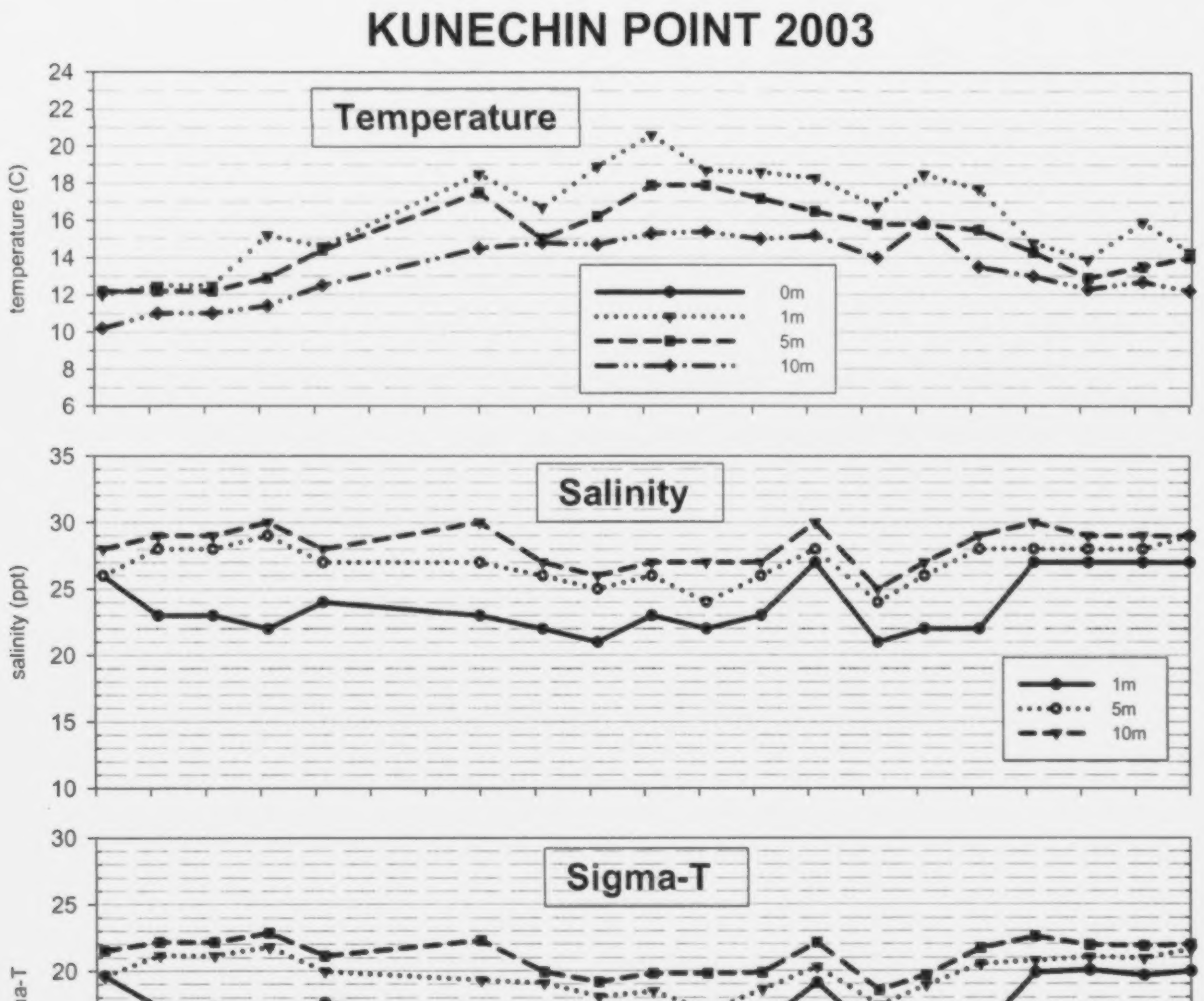


Figure 36: Environmental monitoring data for Kunechin Point.

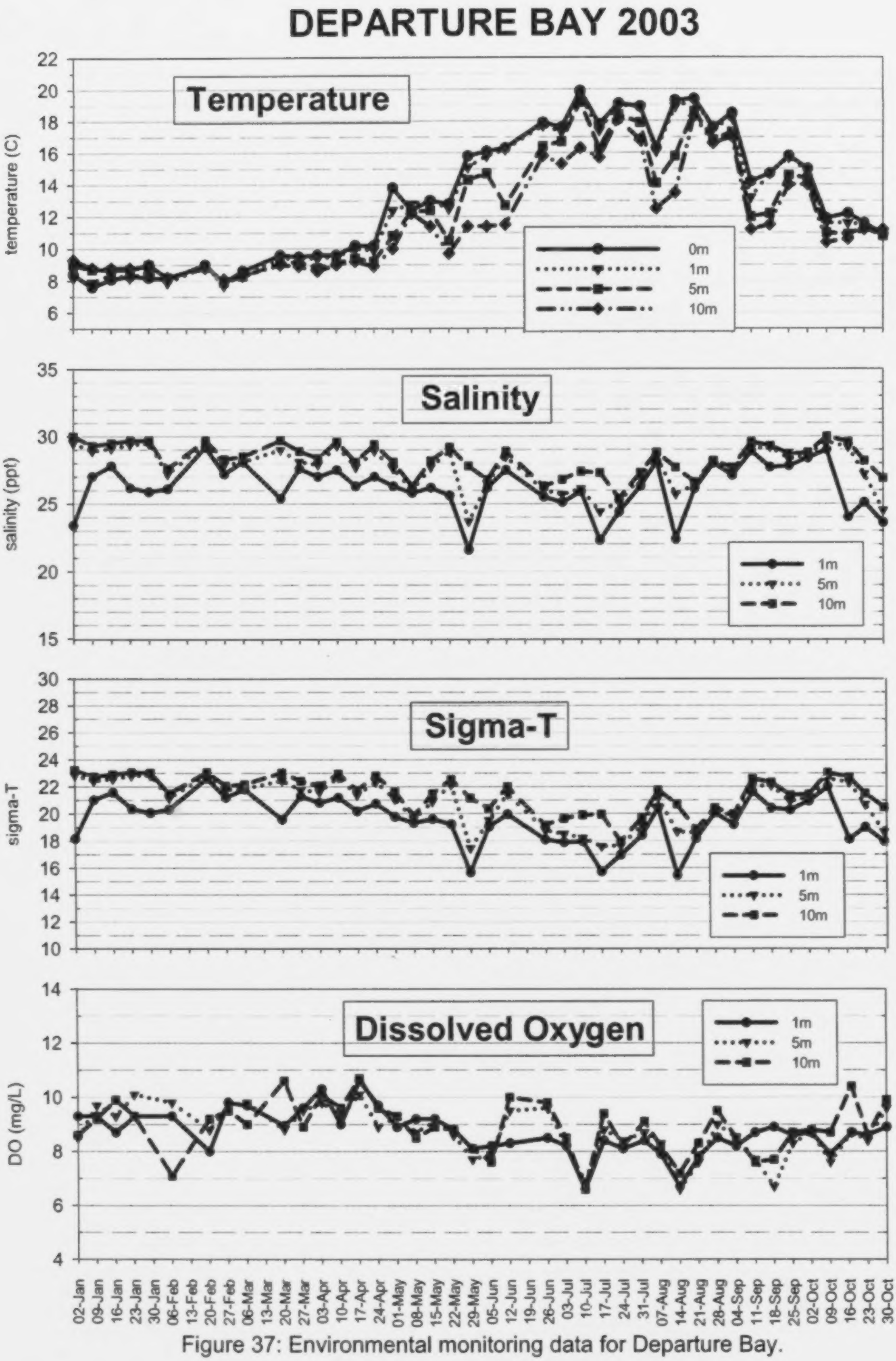


Figure 37: Environmental monitoring data for Departure Bay.

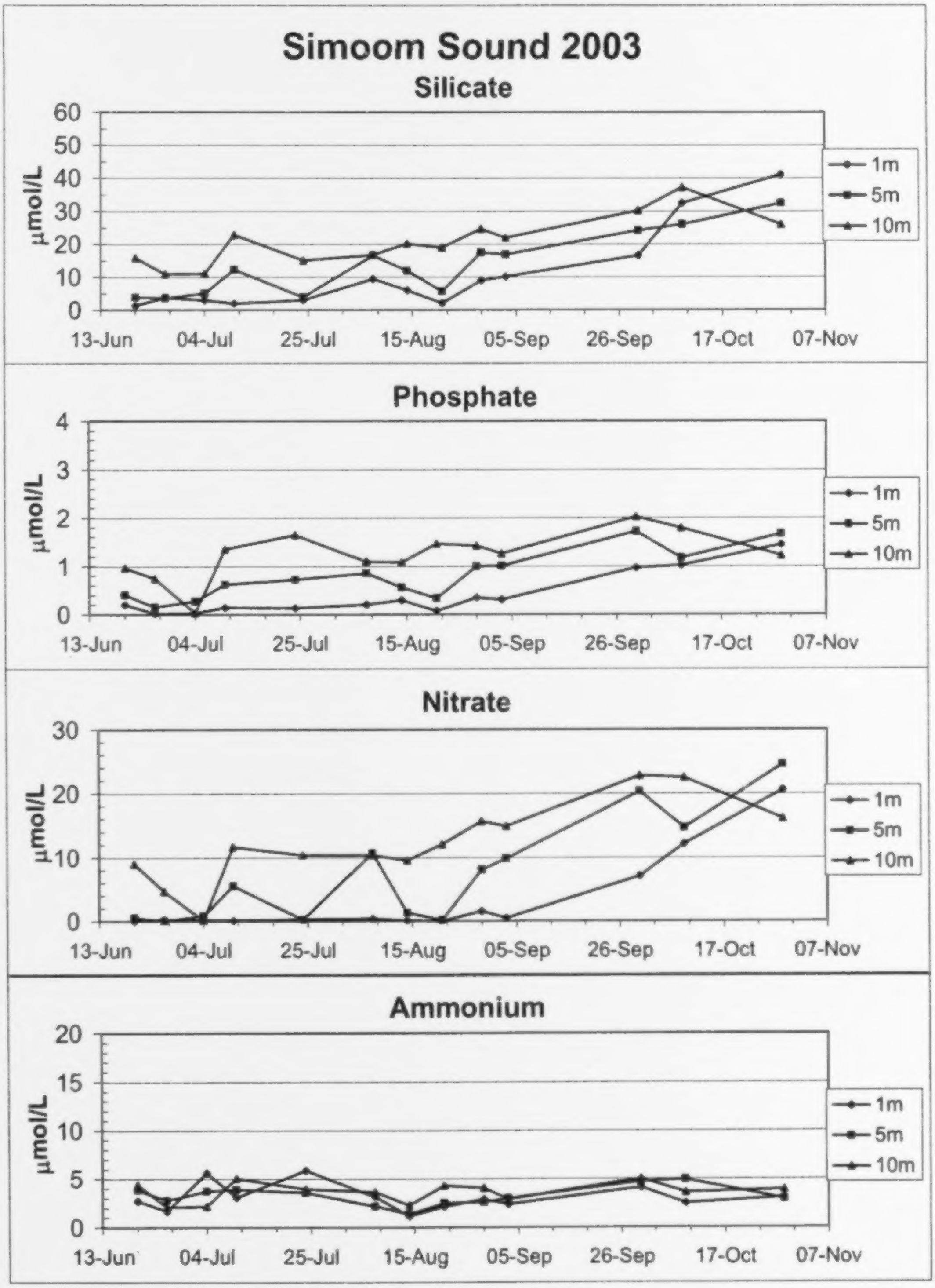


Figure 38: Nutrient concentrations in Simoom Sound samples.

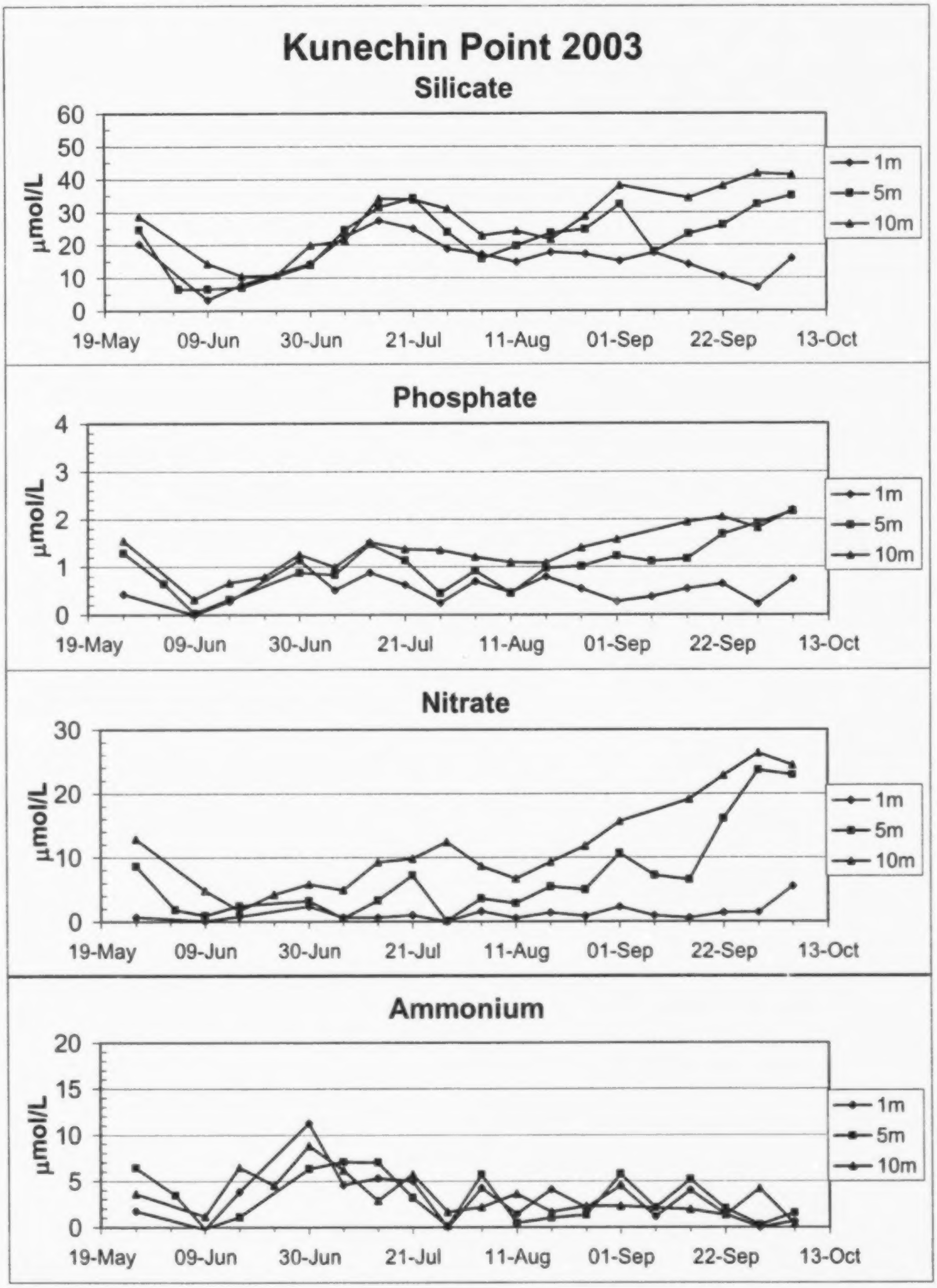
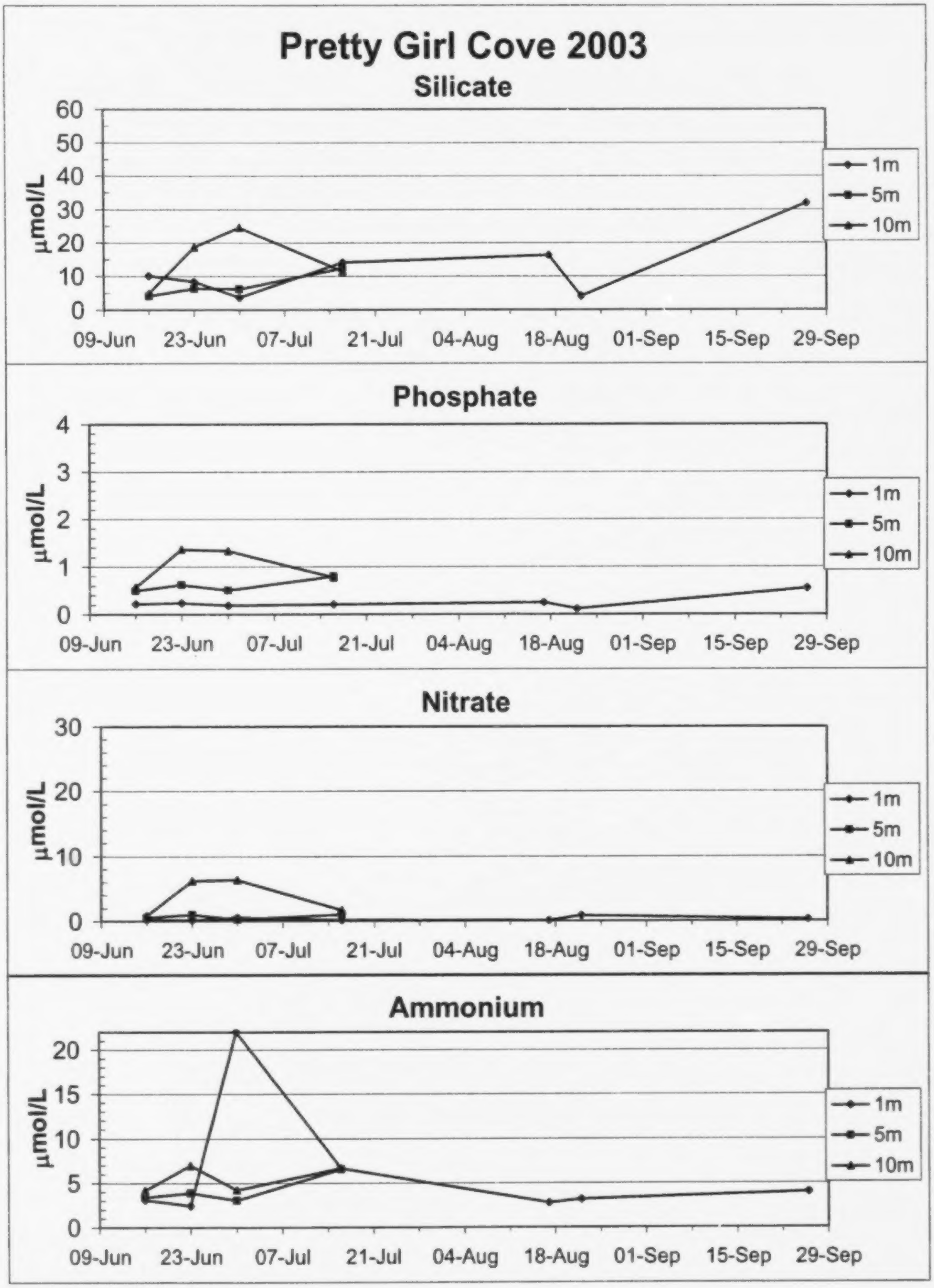


Figure 39: Nutrient concentrations in Kunechin Point samples.



Pretty Girl Cove 2003

Silicate

Phosphate

Nitrate

Ammonium

Figure 40: Nutrient concentrations in Pretty Girl Cove samples.